The Builder.

SATURDAY, DECEMBER 3, 1853.

ON a previous occasion, when we urged on the builders of houses around the metropolis the necessity for caution, and reprobated the mode which was being pursued, the truth of our remarks received a distressing confirmation by an accident on the very morning of their publication, with loss of life, and a second "fall" almost immediately afterwards, fortunately without so serious a result. By what some will call a strange coincidence (although in truth not strange at all), our article with the same end in view last week was borne out by the fall of a large house in Duke's-terrace, Maldon-road, Kentish-town, on the morning it appeared, when a number of men were injured, and by the fall of two large newly-built houses in Denbigh-street, Pimlico, on the following day, most providentially before the men had commenced work. The house at Kentish-town, 30 feet by 24 feet, and three stories high above the ground, was a corner house, intended for a tavern (with *brestsummers in front and flank*, carried on iron columns), which was being erected by Mr. Thomas Harvey, of the Caledonian-road, for Mr. J. Moore. When we saw it on the day after the accident, there was not one brick upon another above the level of the ground. The men were buried in the ruins; but, with the exception of one labourer, as we are told, who fractured three ribs, were not seriously injured, and are all going on well. The owner, who has favoured us with some information on the subject, and exonerates the builder, says one of the brestsummers was supported by a brick pier in cement, 3 feet 6 inches by 2 feet 6 inches, and a 4-inch wrought-iron column; and the second by two 6-inch cast-iron columns, each weighing 8 cwt. one of these being at the corner, and each resting on a brick pier, in cement, 3 feet 6 in. by 2 feet 6 inches. He attributes the accident to the splitting of the stone on the corner pier, on which the column rested, and says, "The sudden action no doubt caused the base of the column to slip outward, in addition to which it appears that the frost had caught the cement of the pier. There was concrete under the piers, which had been in two months before a brick was laid."

An immense number of houses, by the way, are being carried up in this neighbourhood: amongst them is a corner house with returned brestsummer and column at the angle, at no great distance from the scene of the accident, which seems to require attention.

The two houses in Denbigh-street, Pimlico, were in the course of erection by Mr. Simpson, a builder, and here the external flank wall, 60 feet high, first gave way. The walls were built of two sorts of bricks, imperfectly bonded, and two sorts of mortar—one composed with mould, the other for the outer 4 inches of work, with sand. Unequal pressure, unequal settlements, and the bad weather, may suffice to explain the disaster. If not, it would not be difficult to find other reasons for it.

The omission of wood-bond enforced, and properly so, too, by the Buildings' Act, renders other precautions necessary; but these, for the most part, are not taken. In the numerous semi-detached houses which spring up in the fields about the town like mushrooms (some of them scarcely less fungous), it is not unusual to find the flank walls 30 or 40 feet high, standing clear of all support from bottom to top, and with nothing whatever to steady or hold them together while the mortar hardens. Knowing what this mortar is in many cases, it is truly wonderful that accidents are not more frequent.

Touching what we said of the power possessed by the district-surveyor to remedy bad work, it may be useful to publish the result of an information laid by the surveyor of the district of Fulham (Mr. A. Moseley) against the builder of three fourth-rate houses on the north side of the King's-road, and near Stanley-bridge, to the effect that the bricks forming the several walls of the houses, had not been laid in and with mortar or cement, in such manner as to produce solid work, as prescribed by Schedule D, parts I. II. and III.; and that one of the walls had bulged in two places, and was out of the upright. The referees determined that the walls "have been built of brickwork, containing a large proportion of fragments of bricks, or bats; and that the bricks and bats of which such party-walls and external walls respectively have been built are laid in and with a material mainly consisting of loam; and that such material is not mortar or cement within the meaning of the rules of Schedule D of the said Act first herein mentioned; and that the work produced by so building the said party-walls and external walls is not solid work within the meaning of the said rules; and that therefore the said party-walls and external walls respectively have been built in such manner and of such materials as that the same are not built of sound bricks or of stone, or of such bricks and stone together laid in and with mortar or cement, in such manner as to produce solid work, as required by the said rules;" and they directed the builder forthwith to amend the irregularities and to pay the costs of the case and a fee to the district-surveyor.

Let us hope that what has been said, made forcible by the accidents to which we have referred, may lead to the exercise of greater care, and so save lives and property.

And now let us turn to a pleasanter subject, namely, some residences of improved character, in arrangement, which have been recently completed, or are now in progress.

In Francis-street, Westminster, a large building is being erected from the designs of Mr. Henry A. Darbishire, for the better lodgment of married soldiers. The officers of the Guards saw the evils attending the present system; a good spirit within whispered "Up Guards, and at them:" and always ready—when were they ever behind, if there was an enemy to conquer?—they forthwith resolved to erect a building containing a number of distinct tenements, which should secure to the soldier the comforts of a respectable home at a rent not higher than that which he has been accustomed to pay for the most wretched accommodation. They also determined that the building should be self-supporting, and not partake in any degree of the character of an eleemosynary institution.

In accordance with these views, the Victoria Lodging House, so it is to be called, has been undertaken. It consists of fifty-four dwellings, having a common staircase of stone, 9 feet wide, open on one side to the external air from top to bottom. It terminates at the roof, which is flat, for the purpose of affording accommodation for the drying of clothes, cleaning arms, &c., &c. Each dwelling consists of a living room, 14 feet by 10 feet, and a chamber, 14 feet by 8 feet, with sink, receptacle for coals underneath, cupboard, cooking range, boiler, oven, &c., and water supply from cisterns on the roof. Four of the dwellings have a scullery, 8 feet by 5 feet, in addition to the above. There are nine dwellings on each floor, with four water-closets, and two dust shafts; these are situated at each extremity of the building. Ventilation is secured by means of vitiated-air flues, which convey the foul air to the roof; and a constant supply of fresh air is admitted at appropriate intervals. The building stands upon a plot of ground 100 feet long, by 62 feet 6 inches deep; it occupies the entire length, and a depth of 37 feet 6 inches, leaving an area in its rear, where wash-houses will be ultimately erected. The builders are Messrs. Smith and Appleford, and the cost, we are told, will be about 6,000*l.*

A building to accommodate thirty-two families has been erected by Mr. Newson, the builder, on a somewhat awkwardly-shaped piece of ground in Grosvenor-mews, Berkeley-square. It consists of four floors, each floor comprising eight sets of two rooms, with two closets, sink, and dust-shaft. These rooms are approached from open external galleries, to which a central staircase (of slate and iron) conducts. Each living-room has a cottage range. The dust-shaft has an opening on the gallery level, for the convenience of sweeping into, the dust, &c., falling into a vault, which can be emptied as may be required. Each floor is provided with water. The basement contains a coal-cellar for each occupant, and there is a space allotted for washing and other conveniences. The cost of the edifice was 3,000*l.* The building is 109 feet long, 32 feet wide at one end, and 15 feet at the other. The rooms are, therefore, necessarily small; and, opening at once, as they do, into the external air, will, we fear, be cold. This might have been avoided in eight of the dwellings, by making the entrance on the landing of the staircase. It is, nevertheless, a meritorious step on the part of Mr. Newson; and we are glad to learn that the building has been purchased by a committee of the parishioners. Unless the ground-rent be excessive, they may afford a boon to the industrious classes, and yet obtain a fair return for the capital invested. This is the great point to be made thoroughly understood.

We must return to Victoria-street, to mention the fine set of buildings erected there by Mr. Mackenzie, to supply what has long been a desideratum in London, namely, complete residences on flats, as in Edinburgh and Paris. The accompanying plan of one floor (on the next page) will explain the arrangement. Each house, or rather collection of houses, has a frontage of about 117 feet, by an average depth of 45 feet, and the height from the basement to the roof is 82 feet. Where several come together, they form an imposing pile. The cost of each house has been 16,700*l.* These buildings are fireproof; the floors are composed of iron girders, and brick arches in cement between; there are ceiling-joists below, and joists and 1½ floor battens above these, rendering them sound-proof. The roof is flat, and is composed of girders and arches, with a covering of asphalte. All the water and gas pipes throughout the houses are of iron, proved to a pressure of 100 pounds to the inch, previous to fixing; and every care appears to have been taken to make the buildings as substantial as possible, to avoid the necessity of repairs.

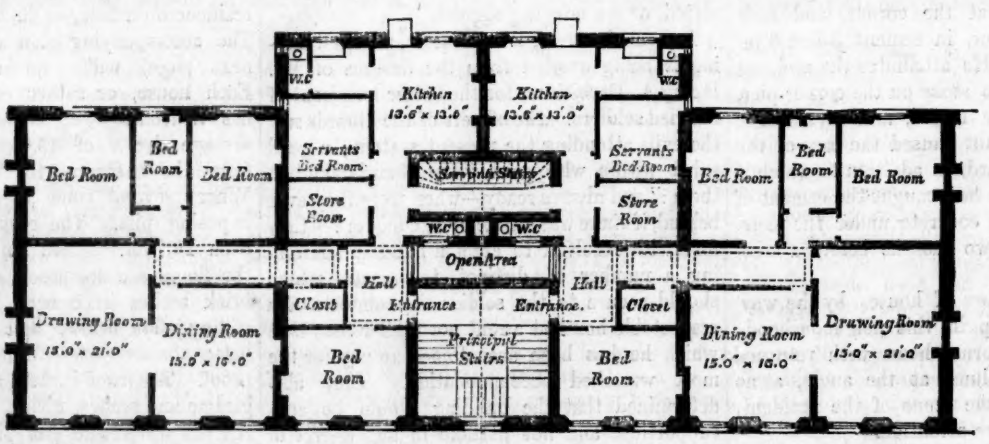
Each house contains six shops, three on either side of a fine staircase, with basement and entresol attached to each, and eight suites of apartments; the latter approached by a door outside, distinct from the shops. All the staircases are of stone.

The annexed details will serve to show the character of the buildings externally. A porter resides on the premises, who performs all the duties usually performed by a hall-porter in a private residence; and the hall and staircase are lighted at night at the expense of the proprietor, and kept in a proper manner. There is a separate staircase for tradesmen, and a lift for raising heavy weights. The advantage of such residences to parties who remain only a portion of the year in London is obvious, as

HOUSES, VICTORIA-STREET, WESTMINSTER.

STAIRCASE WINDOWS.

UPPER STAIRCASE WINDOWS AND CORNICE.



PLAN.

ONE STORY DIVIDED INTO TWO SEPARATE DWELLINGS.

the porter in their absence takes charge of the apartments. The shops are priced at 150*l.* per annum, exclusive of taxes, and the flats range from 200*l.* to 80*l.* per annum, the landlord paying all the rates and taxes. It is Mr. Mackenzie's own speculation, and the idea, we believe, originated with him.

Roberts' "Holy Land."—We think it worth while to note that the whole of this work is about to be sold by auction, as will be seen by an advertisement in another page. The work itself is too well known and esteemed to need recommendation.

CLASSICAL COLUMNAR ARCHITECTURE,

AND THE "STONES OF VENICE."*

The first structures erected on the earth, entitled to be termed architecture, were doubtless columnar. Columnar architecture enshrined the altars of the ancient world, and, leagued with sculpture, became the great vehicle for what of beautiful or sublime could be communicated to stone. It was the material grandeur of Nineveh and Persepolis, the sublimity of Thebes, the world's wonder at Ephesus, the glory of Athens, the magnificence of Rome; nor in the sacred dwelling-place of the Shekinah at Jerusalem was the column forgotten as an impressive and significant element.

For its full artistic development, however, we turned to Athens, and to her imperial conqueror and imitator, Rome;—cities wherein columnar architecture reached its perfection in the shape of the Grecian Doric and Roman Corinthian ordinances.

I have adopted the term "columnar" because I consider the classical architecture primarily and essentially so; and before proceeding further, I must call upon you to keep in mind a true

* The following paper was read at a meeting of the Architectural and Archæological Society of Liverpool.

theory of the column, which is simply an artistically decorated pillar, a post, or perpendicular prop, raised by the genius of form into the life of art; and this, united with horizontal features (as obviously natural), harmoniously decorated, applied in interiors to the support of a ceiling, and in exteriors, to a shelter in form of portico or loggia, constitutes an order of classical architecture;—an abstract idea of which architecture—*i.e.* as it is in itself—is not to be sought in such buildings as St. Peter's, at Rome, or the Palace of Versailles, but in its pure and undefiled manifestation in Greece, where alone we find it in its integrity,—treated according to its true nature and spirit, and innocent of all vices of misapplication.

It may be gathered from the theory I have formed of the column, that I deem the detachment of it essential to true classical architecture: I call the column not an artistic mural protuberance, but a fine-art post; of the beauty, life, and perfection of which the first and most important condition is isolation: connect it with a wall and it ceases to be a column. As a mural decoration it could not have been inspired by nature, but is a degeneracy, a corruption of art.

The detached colonnade instinctively suggests itself to a building people from the grove or forest, and rises naturally into the heaven of art; the attached one is merely its echo, or shadow. It is an abstraction of the colonnade, the beauty of which is obtained through a wrong medium. The attached column produces undeniably a beautiful effect, but in architecture the end does not justify the means. Such a column is not rightly a column at all; its practical use, if it has any, is that of a buttress, and suggests the idea how much more beautiful buttresses might be made than they are. It has no function distinct from that of the wall, of which it is indeed a part.

The objection to attached columns does not apply to attached pilasters: these, within a certain limited projection, as they pretend to no structural service, may be regarded in a different light. They refer to the peristyle, of which they are an abstract imitation. They are an artistic reflection of the columnar beauty on the mural surface, and are introduced for the sake of harmony or harmonious contrast. Their purpose is purely artistic—that of uniting the portico with the walls.

If such be the right use of the attached pilaster, it follows that it should only be used when there are detached columns in the same building, as without them it has no meaning.

While columns—to return to the subject—are kept detached, you can scarcely misapply them: they will range themselves into any necessary position, or relative position: you may couple them, or pile them on each other, without sacrifice either of truth or beauty. Such treatment I know has been objected to by modern writers, and particularly the practice of coupling; but if the right use of the column is to give support where support is really required, and to give the fullest expression of this office, then the practice of coupling columns on a line parallel with the horizon is quite justifiable. There are circumstances under which a breadth of intercolumns might be required, arranged for which single columns would neither actually nor apparently be equal to the task of support. In other words, there may be a greater breadth of opening with the same strength and solidity secured by coupling, besides greater richness and variety of columniation. This fact has been forgotten, and the practice has been objected to as corrupt, simply because it is without antique precedent. But it would be well if modern practice had no worse sins to mourn: the architecture of Paris would be pure indeed were the beautiful colonnade of the Louvre the most corrupt of its features.

This is the columnar system we derive from antiquity. It is emphatically the architecture of proportion, and therefore less than any other dependent upon extraneous decoration. The most eloquent form in which mere columnar architecture can manifest itself, is that of the Greek periptery. But this is not the perfection of classic grandeur; for it does not exemplify the full system as enriched by Roman arch and dome. It is in the combination of colonnade and dome, as exhibited in a peripteral edifice, with its cupola crowning it like the firmament, that the highest specific effect of this architecture is reached.

This system—whatever is connected with Greek or Roman architecture in principle or in form—Mr. Ruskin would now have us cast out as "base and unnatural, unfaithful, unenjoyable, and impious: devoid of all life, virtue, honourableness, or power of doing good." "To renounce utterly, whatever is Doric, Ionic, Corinthian, or Composite, in anywise Grecized or Romanized, or that betrays the smallest respect for Vitruvian laws, or conformity with Palladian work." The first thing that strikes us in this advice is, that to follow it, we must not only renounce the architecture of classical antiquity and the systems based on it, and practised through Europe for the last 300 years, but all Gothic and Romanesque also. Mr. Ruskin's prejudices hide from his eyes the fact of the indebtedness of all modern architecture, Eastern and Western, —not excepting the Byzantine and Gothic of Venice—to that of antiquity, and that a sentence uttered against everything "in principle or in form" of Greek or Roman derivation, sweeps the whole horizon of modern architecture at once, and involves the middle age productions, St. Mark's, the Ducal palace, and all, in its condemnation; and while eulogizing certain capitals as richer, and fuller of meaning than the classical, he forgets that it is to that classical type they owe their beauty, and but for which they could never have existed. Many of the Byzantine capitals he presents us with, do no great honour to their parentage, being as ugly as could well be imagined, abortive in conception, and barbarous in detail; but those that *do* give pleasure by their beauty of outline, owe every ray of that beauty to antiquity. They doubtless derived much of their freshness and variety from the sympathy of the workman with living herbage; but everything really artistic in their composition, was evidently drawn from the style he so vituperates. In the capitals called Gothic, on the 2d plate of vol. 3, so slightly modified is the Corinthian, that they might with as much propriety be called classic; and those that least depart from the best Roman examples, are undeniably the most beautiful. A similar remark may be made in reference to the bases, which are pleasing or otherwise as they approach to or depart from the Attic form.

There is no difficulty in tracing Mr. Ruskin's preference of the Byzantine architecture to his singular delight in colour, which he considers as some way connected with the religious sentiment. Hence his love of the Byzantine style, and admiration of the principle of incrustation, which is the only legitimate means of giving to a building perfect and permanent chromatic decoration. Hence his love of a building the claims of whose component parts on our notice depend on their delicacy of design, their beauty of colour, and the preciousness of their material; where "low walls spread before us like the pages of a book, and shafts whose capitals we may touch with our hands." Such is St. Mark's, which is further held up to us as being "less a temple wherein to pray, than a book of common prayer, a vast illuminated missal;" as being at once "a type of the redeemed church of God and a scroll for the written word of God; a glorious bible; the actual table of the law, and the testimony written within and without." Though this very graphic description builds up and presents to the imagination an edifice of vast historical interest, as most vividly reflecting the temper and spirit of a most interesting age and city, yet the rank of such buildings in the scale of architecture, it is evident, depends entirely upon the importance of that principle of colour or chromatic embellishment, to the embodiment of which every element of their construction refers; a principle we have high authority for looking upon as a very subordinate one in great works of architecture: I mean the authority of Nature, our prime instructress, whose teaching on the subject is so plain that he who runs may read it. Architecture is the art of the beautiful manifested in structure, of which, by its very nature as a structural art, *form* must be the dominant principle, the magic evoker of beauty; so that a building in which construction is made subservient to, and whose chief glory is colour whether obtained by painting the surface, or by incrustation with precious and coloured material, cannot be a high order of architecture, if it be architecture at all, in the proper sense of the word. A building reared merely in reference to colour, must bear no higher relation to fine art than does the panel of a picture.

This partiality, however, of Mr. Ruskin is insufficient to account for his denunciation of the columnar architecture of Greece and Rome in the terms he has used; and the source of his determined hostility to it can only be sought in the gross error of confounding what are the corruptions with the essential elements of it; and, judging of the style by those buildings, and they are legion, in which there is scarcely a constituent member employed according to its original purpose in Greek architecture, he observes,—"It (Renaissance) differs from Romanesque work, in attaching great importance to the horizontal lintel, or architrave *above* the arch; transferring the energy of the principal shafts to the supporting of this horizontal beam, and thus rendering the arch a subordinate, if not altogether a superfluous feature. * * * And I might insist at length upon the absurdity of a construction, in which the shorter shaft, which has the real weight of wall to carry, is split into two by the taller one, which has nothing to carry at all,—the taller one being strengthened, nevertheless, as if the whole weight of the building bore upon it; and on the ungracefulness, never conquered, in any Palladian work, of the two half capitals, glued, as it were, against the slippery round sides of the central shaft."

This is a description, not of Classic architecture, such as it is in itself, and as I have above feebly endeavoured to picture it, and as it is indeed exemplified in some few modern buildings,—but of impure examples, corrupt manifestations of it; in which column and arch and other features are falsely treated; which they have been by the greatest architects of the Revival; from whose impure taste, or misconceptions, have arisen most of the defects of Italian and modern work generally; Brunelleschi, Bramante, Scammozzi, Palladio whose very name has formed a term in modern architecture, seem to have had no clear conception, or to have been oblivious of the true office of the column; and what is called the Palladian modification of Classic architecture is generally a corruption of it; for in such works unmeaning use has been made of its most important elements; and in Roman and Italian arcades columns were, indeed, used but as accessories to arches and piers, and the entire order degraded into a mere masque.

It is, therefore, true that this architecture in a majority of instances does not exhibit that obedience to the laws of its own constitution—that conformity to time and place, combined with fervour of fancy and imagination, that the Gothic builders delighted to set forth; it is too often conventional and dead, or false and meaningless; but it ought to be unnecessary to tell Mr. Ruskin that this is no disparagement to the style itself, and that it should be laid at the door of the architects, not of the architecture, which, like everything else, may be used and abused, employed truthfully and beautifully, or warped from its original intent and purpose, a sacrifice to ignorance or false taste.

The language of a people is none the worse for its having been employed in impure or vicious writing; we condemn the works of Tom Paine, but not the language in which he wrote. The English tongue has been used in illogical and stupid composition, but it is still the language of Milton and Addison; and the man of sense, instead of abandoning the language on this account, or weakly lamenting the corruptions of English literature, would simply endeavour to eschew those corruptions, and use it with propriety himself. Such would be the course pursued by the wise practitioner in reference to classical architecture, the real character of which remains untouched by any defect discoverable in the works of its professors; and the fact that the Renaissance architecture turned its back on all that was truly estimable in art, and refused to appeal to chords that are common to all hearts,—in

other words, aimed at a false standard of taste, is no reason why we cannot direct the same elements to the fulfilment of the true end af art—the production of living and genuine works.

What has the professor of the classic architecture who wishes to use it truly to do either with the faithlessness of the Renaissance school, or the lasciviousness of paganism, with their pride in knowledge or misuse of science? What is it to him that Michelangelo made vain and offensive exhibition of his anatomical skill, that learning has been abused, perspective overrated? To the fact, if it be a fact, of the Renaissance conviction that science was not the aid but the essence of art, and the chief thing to find expression in its works, all we have to say is, that it was a false one, and it is all we need say, for it does not in the least impugn the nobleness or plasticity of the style I am advocating.

The question is not what the Cinque-cento and succeeding architects did with the style they adopted, but what the Classic architecture is capable of. Whether it is *necessarily* "rigid, cold, inhuman, incapable of employing quaint fancy, rich ornament, bright colour, of conceding to the simplicities of humanity, and sympathising with men of ordinary minds." Whether to practise in it *naturally* and inevitably involves the preference of science to emotion, experience to perception, and the banishment from our work of all healthy invention; or presupposes that science and art are one and the same thing, that perspective, linear and aerial, perfect drawing, and accurate light and shade in painting, with true anatomy, are the first requirements in its ornamentation. These are the questions, and these Mr. Ruskin has left just as he found them. I believe, however, they are no questions in the mind of the architect who has a right acquaintance with the style: such a one knows that "feebleness of conception" is not necessitated by Roman lines; that "dexterity of touch" may consist with "tenderness of feeling," and "accuracy of knowledge" with "originality of thought." He knows, as by intuition, that this abused and belied architecture, while it can erect structures "requiring hewn stone and pillars in lordly order and stately size," can also accommodate itself to humbler offices, can irradiate the mountain cottage, and beautify the streets of the provincial town. For my own part, I believe there is no incense offered by our author at the shrine of the Gothic but what the Classic architecture might justly claim. I believe that in right hands it may have "fellowship with all hearts, and be universal like nature;" and while it can "frame a temple for the prayer of nations" far beyond any it has already framed, it can also "pierce itself with small windows* where they are needed," and even "shrink into the poor man's winding-stair."

Mr. Ruskin, who appeals generally to the common sense of his non-professional reader, may find too late that much of what he endeavours in these volumes to enunciate, common sense cannot so easily attain to as he imagines; as for instance, that pride is an essential element of the ancient architecture. That a Corinthian or Doric peristyle "must be inhuman," and "full of insult to the poor." Though he takes it for granted that the truth of what he asserts the general reader immediately feels, yet he may find it difficult to persuade plain men that the laying of a series of decorated posts to support a roof is an exercise of infidelity. A citizen of London will be dull in comprehending that there is anything "unholy" in the grand aisles and dome of St. Paul's, or aught expressive of the "worst features of aristocracy" in Greenwich Hospital; as would a Liverpool burgess that the porticoes and chambers of St. George's Hall were worthless as "rotten rags."

Whether or not, it is to other than these I would appeal: the solution of this question must rest, not with unaided common sense, but with the cultivated and gifted architect. *He*, as I before hinted, will feel how far this architecture is capable of responding to the "Divine faculty," and of being moulded thereby to the multifarious and changing purposes of modern life. And this would have been known ere this to the world, by practical proofs;—its capability of all artistic and rational variety, of embodiment of the subtlest laws of proportion, would have been manifested in the sight of all men, had not this architecture been studied historically and archæologically rather than philosophically.

It is true that Gothic architecture gives to the designer greater latitude than the Classic in the principle of proportion, as the latter system must be restricted mainly to proportion between burden and support, and is so far limited in its variations; whereas Gothic windows and buttresses admit of almost endless change in the relations of height and width; but the Classic architecture, while it is more systematic and definite, is not so limited in range of proportions by this necessity of reference to burden and support as may be supposed. By varying the weight of the burden, the diameter of the columns may be varied also, and to an extent abundant for all purposes of expression. And as to ornamentation, there is nothing to prevent its displaying the same force, vitality, and grace of floral decoration, gathered from the English field, as the best Gothic of the best age, and of combining along with truth to nature the fullest exercise of fancy and invention.

Gothic architecture is itself a standing proof of the vitality of the antique architecture—its power of receiving a new direction, and forming itself upon a new idea—a power and vitality but for which it would never have existed; for Gothic architecture is simply the Classic following the career of a new spirit, inspired by gable and pointed arch. Surely it will not be pretended that this was the only way in which it could have grown consistent with the conditions of truthful architecture; and that a beautiful system, plastic and progressive, might not be founded on the round arch and dome, in connection with the detached columnar ordinance.*

S. H.

* Gothic architecture is certainly not the only style that can do this. In a perfectly domesticated and Anglicised classic architecture, I am persuaded windows could be placed with the greatest irregularity, with no ill effect. The reason why windows hitherto could not be put just where they are wanted, i.e. irregularly, in Classic and Italian buildings is, that they have generally been eyesores wherever placed. Let them be made beautiful in themselves (I mean chiefly with regard to their fillings-up), and they may be placed anywhere. Mere holes in the wall would not look well in the Gothic or in any style.

THE BUILDINGS OF LILLE, IN FRANCE, AND THE ARCHITECTURAL SKETCHES THERE ATTRIBUTED TO MICHELANGELO.

The city of Lille has hitherto been more remarkable for the extent and strength of its fortifications, which were deemed a masterpiece of the great Vauban, than for its architectural monuments; for although its Hotel de Ville still retains some points of architectural and antiquarian interest, and some of the churches evince considerable elegance and skill in design, yet they do not boast any very remote antiquity, are not distinguished for their decoration, and its tallest spires and towers have been destroyed during sieges at various periods; the most disastrous of which was the nine days' bombardment by the Austrians in 1792, under the Prince of Saxe Teschen, which brought down some of its loftiest and proudest monuments.

There are two "*Places*" nearly together; one of considerable size, the other much smaller. Some of the streets are of tolerable width, and run in straight lines to the city gates. Many of the houses are attributed to the times when the Spaniards ruled the country, in the sixteenth and seventeenth centuries, and exhibit signs of affluence and ease; the fronts being much decorated with pilasters, enriched capitals, capriciously decorated doors and windows of the Italian taste and of heavy proportions.

There are six parish churches, three of which are Gothic. S. Maurice, the cathedral, is remarkable for its five aisles of equal height, divided by cylindrical pillars. The end is apsidal, the sides being formed into polygonal chapels, like those at Westminster Abbey. The effect of the various vistas of the interior is very striking, and the combination of the several parts produces most pleasing and effective groupings. The Church of S. Sauveur had once a noble stone spire with pierced tracery, but the cannonballs of the Austrians brought it to the ground in 1792. The Church of S. Catherine, a Gothic structure, seemed to me peculiarly adapted for one of our churches, as it consists of a nave and side aisles divided by cylindrical pillars, which being twelve diameters apart, offer little obstruction to the sight. The Church of the Magdalen, of Italian design, has a central circular hall as it were, with a circular aisle around it, from which radiate the choir in an easterly direction, and corresponding chapels to the north and south, with considerable effect. The two other churches are those of S. André and the Jesuits, on the usual Italian model, divided by columns and piers, spacious, airy, and simple, and on a noble scale. In the last of these considerable appearance of extent is given by the end of the side aisles being painted to represent a distant vista: by this expedient great lightness of effect is given, and the deadness of a blank wall avoided, although it must be considered to be a somewhat meretricious expedient. There are several modern buildings of considerable importance, among which is a Lycée, of great extent of plan, now in course of erection, and the Hôtel de Ville, formerly the Palais de Rihour. So much of the old part of this edifice as now remains, is of the Gothic style: it was originally enlarged and completed in 1430, by Philippe le Bon, Duke of Burgundy and Count of Flanders, whose device of the flint and steel is gracefully introduced on the staircase, in the ornaments of the groined vaulting of the interpenetration character, the mouldings of which are very curiously interlaced. Besides this staircase there are few remains of the ancient fabric, which is now being superseded by the spacious and noble structure, rising from the designs of Mons. Benvignat. But there is still an old lofty hall with a groined ceiling, called the Salle du Conclave, which also contains some fine paintings, well combining with its architecture and fittings. Mons. Benvignat and the authorities have every disposition to retain these striking features of the old Palais, associated as they are with many historical circumstances, such as the holding the second chapter of the Golden Fleece in 1431; the meeting of Charles V. and our Henry VIII. in 1541, and with brief residences of Louis XIV. in 1670, and of Louis XV. in 1744.

The old Palais de Rihour was so generally dilapidated, that a few years ago it was determined to take it down, and erect on the site a new Hôtel de Ville; and the work was confided to Mons. Benvignat, who has designed it on an ample scale, with lofty storys, grand vestibules and halls, spacious staircases, and well-lighted picture-galleries. The columns are of the blue lias formation procured from Belgium, near Tournay, the shafts being monoliths, and the pedestals and bases also in single blocks of considerable dimensions.

The Museum, the City Library, and municipal offices are contained within this fine building. You will remember that on a former occasion, when I described the public institutions of Caen and Arras, I alluded to the noble munificence and public spirit with which the principal cities of France were endowed with institutions on a grand scale, and of a useful and intellectual character: and it must be acknowledged that, however detrimental the octroi may be considered to the commerce of a place, its revenues have procured to the leading cities of France, institutions and edifices which we may well envy them; and we can hardly hope that the merely permissive character of recent enactments in this country can ever realise such results as have been effected in France. A majestic staircase, adorned in part with casts from our Elgin marbles, leads to the Public Museum of Lille, which consists of seven rooms of noble dimensions, four of them containing some very creditable productions of ancient and modern painters, and copies of some pictures by Paul Veronese, Rafaelle, Rubens, Vandyke, and other leading masters.

But the most precious portion of these works of art is a collection containing about 1,200 original drawings; 197 attributed to Michelangelo, three to Leonardo da Vinci, sixty-eight to Rafaelle, thirteen to Masaccio, six to Andrea del Sarto, nine to Bandinelli, one to Paolo Veronese, one to Perugino, one to Gian. Bellino, eight to Annibale Caracci, two to Coreggio, seventeen to Carlo Dolci, ten to Fra Bartolomeo,

* To be continued.

fifteen to Francia, eight to Guercino, five to Ghirlandajo, three to Giulio Romano, one to Palma, five to Parmegiano, six to Poussin, two to Tintoretto, eight to Titian, two to Albert Dürer, three to Lucas de Leyde, one to Rembrandt, and one to David.

Many of these are apparently first sketches of pictures, which have since acquired the highest reputation, and show the gradual steps by which the great masters progressively improved the rude embryos of their first thoughts; and in order to compare the original ideas with the finished works, there are engravings of the pictures as completed. Some are in pencil, others in black or red chalk, and several in bistre. A most lovely model in wax, attributed to Rafaelle, of a female head the size of life, coloured to nature, the contour, pose, and expression of which recal the perfection of Greek art, rivets the attention of every visitor. It is fractured in the neck, and evidently is of so frail a nature, that, however anxious has been the desire to take a cast, the success seems too hazardous to justify the attempt. The drapery covering the bust, and the pedestal, are of terra-cotta of a later period. I consider this the gem of the collection.

To architects, the most precious portion of the drawings, is a series of 185 sketches of architectural subjects, attributed to the pencil of Michelangelo. They are now mounted in glazed frames, so arranged as to show both sides of the sheets, as they originally were in a sketch-book, and with drawings on both sides, the size 8 inches by 5 inches. They are generally drawn in bistre, and the plans tinted with a light shade of that colour. To some there are dimensions: others have the words *a discretione e no e misurato:* sometimes the word *anticho* is added. They consist of plans, sections, details, and some few elevations, of various ancient and modern buildings. Among the former are the arches of Titus, Septimius Severus, Janus, and Constantine, at Rome; of Augustus at Pola, in Istria; a plan and details of the Coliseum. Some seem to be plans of ædicula or tombs, like those then abounding in the Campagna; and I find No. 439 to be identical with the plan of plate 24 of Montano's "Scelta di varii Tempietti Antichi." There is a sketch in pencil of the drum, under the cupola of S. Peter's at Rome, as designed and executed by Michelangelo, with the abutment piers and coupled engaged columns, instead of the continuous colonnade of previous designs, whether by Bramante or S. Gallo; and above are some loose lines in pencil indicating the dome, though not very definitely, and more like the Pantheon than S. Peter's. There are several drawings of the parts of the Church of S. Pietro in Montorio, which was designed and built by Bramante, the contemporary of Michelangelo and uncle of Rafaelle; and many sketches of the Baptistery at Florence, of the Lantern of S. Lorenzo, a plan of the Chiesa degli Angeli by Brunelleschi, and other buildings in that city, and particularly of the Medicean Library, designed and almost entirely executed by Michelangelo, but completed by Vasari, to which I shall again more particularly allude. There are sketches of vases, arabesques, pulpits, and groups of trophies of ancient Roman armour.

During the short period of time that I was enabled to devote to the careful examination of these drawings, I sketched off some of the plans. One of these gives a restoration of the Ruin in the Campo Vaccino, known as the Temple of Peace, or as our friend Mr. Burgess, and other antiquaries call it, the Basilica of Constantine. It gave rise to some discussion, when Mr. Burgess favoured the Institute during the last session with his instructive paper on the ancient Basilica and early Christian Temple. The sketch contains these original remarkable words upon it in Italian ("Questa una pianta d'una chiesa moderna no so di chi sia mano"): "This is a plan of a modern church by I know not what hand." Now the restoration of this ruin, as you are aware, has puzzled antiquaries and architects from the time of Serlio to that of Palladio, and down to the present period. Its name, its destination, and its plan have been a constant enigma; but it appears stranger still, if Michelangelo be the author of these sketches, that he should copy the idea of another, call it a modern church, and say he knew not by what hand, when from his constant residence at Rome, he must have had a thorough knowledge of the pile, whose three arches rise with such majestic grandeur among the ruins of the Campo Vaccino, and his eye, familar with the building, must have recognised at once an adaptation and not a "*chiesa moderna.*" A curious coincidence is, that he himself, whether before the date of this sketch or after it is impossible to say, converted a similar hall in the Baths of Diocletian to the purposes of religious worship. The church, a majestic one from its size and simplicity, is known as the Madonna degli Angeli, and is interesting also to artists as containing the tombs of Carlo Maratti and Salvator Rosa: the grand hall is 198 feet long by 84 feet wide, independently of the end chapels, which give an additional length of 65 feet each, making a total length of 328 feet. These measurements were taken by Mr. Hardwick and myself, when we were together in Rome in 1818.

This sketch suggests many remarkable considerations. It omits the large lateral niche; it fills in small columns between the large arches of the nave, and thus decidedly separates the central nave from the side aisles; it adds small columns to the niches, as though each had a tabernacle, as in the Pantheon, a very probable conclusion. But the most important circumstance is the addition, at one end, of a noble portico of large proportions; where from the time of Serlio to the present period, comprehending Palladio and Canina, the space is supposed to be occupied by a paltry arcade. As such a feature is irreconcileable with the broad treatment of the rest of the edifice, and considering the arcade to be a construction of more recent times, it seems more consistent with the true spirit of the original design to give it a more dignified façade than that of Palladio or Canina, so as to be accordant with its size and disposition, maintaining its importance with the Temple of Venus and Rome immediately adjacent, and the other magnificent buildings of the Roman Forum, to which it is contiguous.

Our friend, Mons. Hittorff, to whom I sent a copy of this sketch, has called my attention to the similarity between the plan of this portico and that of a portico to S. Peter's, attributed to Michelangelo: they are placed side by side on one of the illustrations now exhibited, the only difference consisting in the number of the columns,—the one being for a tetrastyle, the other for a hexastyle portico, and the projection of the porticoes being respectively two and three intercolumniations. But our distinguished honorary and corresponding fellow calls attention to another suggestion presented by the plan, which forcibly revives an early impression upon his mind, that the primitive plan of S. Peter's at Rome, as designed by Bramante, consisting of a simple Greek cross, and divested of its superfluous accessories, would seem to have been suggested by the plan of this ruin, with which in its main lines and features it palpably corresponds.

Such are some of the speculations which arise from the contemplation of this plan and the startling words—"*Chiesa moderna no so di chi sia mano.*"

I shall not perplex you nor myself by any lengthened speculations upon the real character and destination of this edifice. Its plan is wholly at variance with the type presented in any known temple of the Greeks or Romans: hence the name of Temple of Peace seems inappropriate. Its plan is no less discordant from the precepts of Vitruvius, or any other basilica in ancient Rome: hence the term Basilica of Constantine would remove it from the usual basilican canon; and experience does not teach us that the Romans of later times departed very materially or radically from established previous types. But its vicinity to the Domus Aurea of Nero makes me inclined to consider it as a vestibule to that noble palace, partially saved from the conflagration, restored, added to by Maxentius, and possibly christened with a new name in periods much subsequent to its original erection.—And now *requiescat in pace.*

The next sketch, to which I invite attention, is that of the plan of the vestibule to the Medicean Library at Florence. Those who have visited that building will remember the vestibule, and its strangely planned flight of steps leading up into the library: and they will recal the columns sunk in the walls, and other grotesque mixtures of heterogeneous forms in the details, which fully bear out what Vasari says of Michelangelo,* and who thinks to praise the master for having "composed a decoration of" what he calls "a richer and more varied character than had ever before been adopted, either by ancient or modern masters. The beautiful cornices," says he, "the capitals, the bases, the doors, the niches, were all very different from those in common use, and from what was considered *measure, rule, and order by Vitruvius* and the ancients, to whose rules *he would not restrict himself.* But this boldness on his part has encouraged other artists to an injudicious imitation, and new fancies are continually seen, many of which belong to '*grottesche,*' rather than to the wholesome rules of ornamentation. Artists," continues Vasari, "are nevertheless under great obligations to Michaelagnolo, seeing that he has thus broken the barriers and chains whereby they were perpetually compelled to walk in a beaten path, while he still more effectually completed this liberation, and made known his own views in the Library of San Lorenzo, erected at the same place. The admirable distribution of the windows, the construction of the ceiling, and the fine entrance of the vestibule, can never sufficiently be extolled. Boldness and grace are in the work as a whole, and in every part: in the cornices, the corbels, the niches for statues, the commodious staircase and its fanciful divisions,—in all the building, at a word, which is so unlike the common fashion of treatment, that every one stands amazed at the sight thereof."

The Medicean family having collected a vast quantity of very fine manuscripts of the classic authors, from the Greeks who had been driven from Constantinople, and from other sources, were anxious to provide a receptacle worthy so rich a treasure.† Clement VII. one of the Medicean popes, was desirous of establishing memorials to his fame in sculpture, painting, and architecture, as Leo and his other predecessors had done. This was about 1625, and Michelangelo was summoned to Florence to design the library, to be called that of San Lorenzo, with a new sacristy to the church, wherein the Pope proposed to erect the marble tombs of his forefathers,‡ two to enclose the remains of the fathers of the two popes, Lorenzo the elder and Giuliano his brother, with those of Giuliano, Duke of Nemours, the brother of Leo, and of Lorenzo, Duke of Urbino, his nephew.

Eight years afterwards, in 1533, Pope Clement died,§ when the works then proceeding at the library and sacristy in Florence, which, notwithstanding all the efforts made, were not yet finished, were at once laid aside. Towards the middle of 1555, during the time of Paul III. "Duke Cosinio had sent Tribolo to Rome, to try if he could persuade Michelagnolo to return to Florence, there to finish the sacristy of San Lorenzo; but the master had excused himself, saying, that he was become old, might no longer endure the fatigue of labour, and could not leave Rome. Tribolo then inquired as to the steps for the library of San Lorenzo, for which Michelagnolo had caused many of the stones to be prepared, but for which no model nor any certain indication of the form in which they were to be constructed, could be found. It is true, that there were some few sketches of a pavement and other things in terra, yet the correct and final design of the work could not be ascertained. But not all the entreaties of Tribolo, although he brought in the name of the duke, could move Michelagnolo to say more than that he did not remember. The duke then commanded Vasari to write to the master, since it was hoped that for the love of him, Michelagnolo would perhaps say something which might enable them to bring the work to conclusion. Vasari wrote to him accordingly as the duke desired, adding, that of all which had to be done Vasari was to be the director, and

* Vasari's Lives, translated by Mrs. Foster, vol. v. p. 273.
† Page 271. ‡ Page 272. § Page 282.

would do everything with the utmost fidelity, taking care of every minutia, as of a work of his own. To this Michelagnolo replied by sending the plans for the work in a letter, written by his own hand, on the 28th September, 1555. 'Messer Giorgio, my dear friend,—About the staircase, whereof there has been so much said, believe me, that if I could remember how I had arranged it, I should not require so many entreaties. There is a certain stair, that comes into my thoughts like a dream; but I do not think it is exactly the one which I had planned at that time, seeing that it appears to be but a clumsy affair: I will describe it for you nevertheless. I took a number of oval boxes, each about one palm deep, but not of equal length and breadth. The first and largest I placed on the pavement, at such distance from the wall of the door as seemed to be required by the greater or lesser degree of steepness you may wish to give to the stair. Over this was placed another, smaller in all directions, and leaving sufficient room on that beneath for the foot to rest on in ascending; thus diminishing each step as it gradually retires towards the door; the uppermost step being exactly of the width required for the door itself. This part of the oval steps must have two wings, one right, the other left. The steps of the wings to rise by similar degrees, but not to be oval in form. The ascent by the middle flight, from the centre to the upper part, shall be for the Signore: the turn of the wings must be towards the wall. But from the centre downwards to the pavement, they shall be kept at the distance of about three palms, in such sort that the basement of the vestibule shall not be infringed upon in any part. What I am writing is a thing to be laughed at, but I know well that you will find something suitable to your purpose.'"*

In a brief conversation on the subject, which I had with Monsieur Benvignat, the architect, of Lille, he gave it as his opinion, that the sketch exhibited in the Wicar collection is the original idea of Michelangelo; that he had lost the book, and forgotten this his first conception. But the sketch is equally at variance with the master's letter just quoted, and the staircase as executed. The sketch presents an oval series of steps, half without and half within the door of the library; but the number would not have accomplished half the height to which it was necessary to rise; and although oval, like the boxes alluded to by Michelangelo, there are no side steps.

So restricted is the vestibule, that the intrusion upon the space of the floor, by the capricious form given to the flight as executed, leaves very inadequate room for the landing at the bottom of the stairs; and if any method could have been devised of gaining space by making some of the steps rise within the doorway, much convenience would have been gained. I am inclined, therefore, to think that this sketch is a slight idea of Vasari's, founded upon some vague rumour of Michelangelo's arrangement, to try how it could be carried into execution, before he had received the master's formal instructions.

This brings us to the consideration of the important question, who was the real author of these sketches? My own impression is, that *the whole book* may be attributed to Vasari himself—that all the sketches of the library, of the Cupolino of the Sepulchral Chapel, and of the other details of Michelangelo's work, were taken for his own guidance, or for the purpose of sending off copies to the master, to enable him to give the proper instructions to direct Vasari's proceedings in the completion of the buildings confided to his care.

The sketches generally are executed with a certain ready freedom of hand and no great care; but some are drawn with much delicacy and with considerable precision and minuteness of form. Hardly more than two or three evince that bold and vigorous freedom of treatment, which we are accustomed to consider as characteristic of the maestro, as Vasari repeatedly calls him. One circumstance particularly struck me, and that was, the numerous sketches of the circular chapel built in the cloister court of S. Pietro a Montorio, by Bramante. This building excited vast admiration at the time, and Serlio himself gives the plans, elevations, and sections of it in his work next to those of the cupola of S. Peter's, and among the numerous illustrations of ancient buildings, and Palladio also gives it among his ancient edifices. Other writers of the time mention it with unqualified praise. It would, therefore, be no wonder if a Vasari, who was employed upon designs and models for tombs at S. Pietro a Montorio, by order of Julius III. should have sketched parts and kept a record of such details. But that Michelangelo, who despised the trammels of *ancient art*, should condescend to the task of minutely drawing the work of a cotemporary, and that cotemporary no friend of his, but the uncle and supporter of his rival Rafaelle, and one who crossed him in his great work for the tomb of Julius, seems beyond probability, however noble were many impulses of Michelangelo's generous nature. I am given to understand that many French artists, who have visited the Wicar collection, concur in my opinion as to the propriety of not attributing this collection of sketches to Michelangelo; and a distinguished member of the French Institute, a great amateur and connoisseur, assures my friend Hittorff, that he had traced the writing on some of these drawings, and that it did not at all accord with that of the great master. I am therefore confirmed in the conviction, that these architectural sketches are not the production of Michelangelo.

I shall now notice a letter from François I. to Michelangelo; but before I put you in possession of this most precious of the treasures of the Wicar collection, it is necessary for me to give a few particulars of one, to whom it refers, and which I shall do by quoting another passage or two from Vasari. Francesco Primaticcio was sent by the Duke Frederigo of Mantua to France, at the request of Francis I. who, having heard of the decorations, with which he was adorning the Palazzo del T, desired to have an able artist to execute like works for him at Fontainebleau, and elsewhere. Primaticcio, according to Vasari, was the first to paint frescoes of any account for the French king, and we all know how admirably he succeeded in the great and superb ball-room at Fontainebleau:—

"King Francis, being much pleased with the conduct and proceedings of Primaticcio, sent him in 1540 to Rome, he having put the wish, according to Benvenuto Cellini,* into that monarch's head to possess antiques. He purchased several antiques in marble, and served the king so diligently, that what with heads, trunks, and entire figures, he bought in no long time 125 pieces. At the same time Primaticcio caused Barozzi da Vignola and others to copy the bronze horse of the Capitol, the greater part of the relievi of the column (probably Trajan's), the statue of Commodus, the Venus, Laocoon, the Tiber, the Nile, and the statue of Cleopatra, which are in the Belvedere, and all which were to be cast in bronze."

"Being recalled to Paris, he returned immediately. But, before attending to any other occupation, Primaticcio caused the greater part of those antiques to be cast, when all succeeded so well, that they might be taken for veritable works of antiquity, as may still be seen," says Vasari, "in the queen's garden at Fontainebleau, where they were placed to the great satisfaction of King Francis, who may be said to have there made another Rome."

"The king, perceiving that he had been well served during the eight years that Primaticcio had been with him, appointed the painter to be one of his chamberlains. And shortly after (in 1544 that is to say) his majesty made him abbot of S. Martin (at Troyes)."

The document which rendered necessary these preliminary remarks, is as follows:—

S^r Michelangelo pourceque jay grant desir davoir quelques besognes de vre ouvrage jay donne charge a labbe de Sainct Martin de Troyes pñt porteur que jenvoye pardela den recouvrir vous priant si vous avez quelques choses excellentes faictes a son arrivee les luy voulloir bailler en les vous bien payant ainsique je luy ay donne charge Et davantaige voulloir estre contant pour lamour de moy quil molle le christ de la Minerve* et la ñre dame de la febre† affinque jen puisse aorner lune de mes chappelles comme de chose que lon ma asseure estre des plus exquises et excellentes en vre art. Priant dieu S^r Michelango (sic) quil vous ayt en sagarde. Escript a Sainct germain en Laye le VIII^e jour de feurier mv^c xlv.

FRANCOYS. DELAUBESPINE.

No. 199.

This letter proves that Primaticcio must have made a second visit to Italy for the purpose of collecting more works of art; and its truly princely sentiments evince the taste, the liberality, and high-minded generosity of a real lover of the fine arts. How fortunate has France been for three centuries in having princes who felt that the fine arts can contribute essentially to the refinement, the happiness, and prosperity of a nation. This spirit has endowed Fontainebleau, Paris, and Versailles with the masterly productions of the greatest minds in Italy and France. The lower orders have their enjoyments in common with the princes, the nobles, and gentry of the land; and they grow up imbued with the love of that art, which is so mixed up with their holiday enjoyments, that it becomes a necessity, as it were, from their being used to it from their earliest years; and they are thus unconsciously educated by the contemplation of the finest works. How far are we in this respect behind our neighbours. The gardens of the Tuileries have no parallel with our royal residence of Buckingham Palace; and Fontainebleau puts to shame the courts, and terraces, and gardens, and walks of Windsor Castle, which contain hardly a single statue, group, or fountain, or other art-accessories of any consequence, and appear cold and meagre, and poverty-stricken, from the want of such accompaniments; so niggardly and deficient in art-feeling have those authorities been, who have hitherto had to provide for the palaces of our sovereigns, and the places of public resort for the people. Often was François I. thwarted by his ministers in his munificent desire to promote the fine arts, but he was not to be turned away from an object which he knew would gratify his people and ennoble his country. And well has this noble spirit been rewarded for his early enlightened cultivation of the fine arts, for his example has been followed by the continued munificence of succeeding monarchs and ministers, which has produced that superiority in the art-productions of their manufactures, which enables them to compete so successfully with the mere mechanical skill and industry of other nations.

Michelangelo has been the main topic to which I have been so bold as to claim your attention; and surely his position as an artist claims for him the respect and admiration of every painter, sculptor, and architect. And although he was a great innovator in architecture, and introduced a license which was most pernicious to the art, yet we cannot but recollect that we owe to him the simplicity of design, to which he reduced the cupola and other decorations of S. Peter's, which had been sadly corrupted by the immediate successors of Bramante, whose original conception had been lost. Vasari mentions ‡ that "while Antonio San Gallo lived, Pope Paul had permitted him to continue the building of the Farnese Palace. But the upper cornice on the outside was still wanting; and his holiness now desired that this should be added by Michelangelo, after his own design and under his direction. The master, therefore, not willing to disoblige the pope, who esteemed and favoured him so much, made a model in wood seven braccia long (13½ feet), and of the exact size which the cornice was to be. This he caused to be fixed on one of the angles of the palace, that the effect might be seen; when, as the pontiff and all Rome with him were much pleased therewith, it was put in

* Gaye, in his "Carteggio," makes it doubtful whether Vasari finished these steps or not; and a Florentine commentator says, "Although Michelangelo had left the steps, the balustrade, and many other parts of this work in a state of preparation, it is manifest that Vasari did not succeed in comprehending the master's wish. He constructed a magnificent flight of steps, without doubt, but not that intended by Michelangelo."—See Ruggieri, "Studio d'Architettura Civile;" also Rossi, "Libreria Mediceo Laurenziana."

* "Vita," vol. ii. p. 121, Edit. di Milano, 1811, 8vo.

* This celebrated statue is still preserved in the Church of the Minerva, near the Pantheon, Rome.

† This statue was, according to Vasari, executed for the Cardinale di S. Dionigi, to put in old S. Peter's, in the Chapel of the Virgin Mary of the Fever. I have made ineffectual inquiries to ascertain precisely where this statue is. Mons. Hittorff thinks it the Madonna della Pietà, the cast of which was in one of the chapels of Fontainebleau up to the time of the Revolution. Probably it may be the Pietà of S. Peter's of Rome, re-named after the time of Vasari.

‡ Vasari's Lives, translated by Mrs. Foster, vol. v. pp. 236-7.

execution, proving to be the most beautiful and varied cornice ever erected, either by the ancients or moderns.* He continued the great court also, constructing two ranges of columns over those first erected, with the most beautiful windows, and a great variety of rich ornaments, ending with the great cornice; all of these works being so beautiful, that this court by the labour of Michelangelo has now become the finest of all Europe."

You will doubtless remember the beautiful picture by Haghe in the New Water-colour Exhibition of the year 1848, representing Michelangelo, himself an old man, nursing by his midnight lamp his faithful servant Urbino, who was ill, his master sleeping at night in his clothes beside him, the better to watch for his comforts. Vasari gives the following touching letter written to him by Michelangelo on this occasion:—"My dear Messer Giorgio,—I can but ill write at this time, yet to reply to your letter I will try to say something. You know that Urbino is dead; and herein have I received a great mercy from God, but to my heavy grief and infinite loss. The mercy is this, that whereas in his life he has kept me living, so in his death he hath taught me to die, not only without regret, but with the desire to depart. I have had him twenty-six years, have ever found him singularly faithful, and now, that I have made him rich, and hoped to have in him the staff and support of my old age, he has disappeared from my sight; nor have I now left any other hope, than that of rejoining him in paradise. But of this God has given me a foretaste, in the most blessed death that he has died: his own departure did not grieve him (so much) as did the leaving me in this treacherous world with so many troubles. Truly is the best part of my being now gone with him, nor is anything now left me, except an infinite sorrow. And herewith I bid you farewell."

I have been insensibly led, by the interest which attaches to the talents and character of this great man, to depart from the immediate subject of my paper, and to conclude my remarks by an allusion to his works at the Farnese, and by the contemplation for a moment of the affecting incident which lays open the inmost soul of Michelangelo, and shows him with the tenderest regard as a kind master, and the finest feelings of the most pious resignation in the contemplation of his own not far-distant end,—as exemplary as a Christian, as he had been eminent and admirable as an artist. But I will now conclude, and trust that I may not be considered too presumptuous in so boldly offering my opinion as to the authorship of these architectural sketches. Whosesoever they may be, whether Michelangelo's, or Vasari's, or any other artist's, they are extremely curious and interesting in the history of our art. I hope that none of my professional brethren, who have not yet seen these drawings, will now pass through Lille without visiting this fine collection. They will then, in addition to the delight they will experience in seeing the masterly thought-renderings of other great men, be enabled to judge for themselves, and to decide whether I am wrong or right in hesitating to attribute to the mighty Florentine these architectural sketches, which well deserve the minutest attention from every lover of architecture. T. L. DONALDSON.†

* The cornice to the Stromi Palace at Florence must have suggested to Michelangelo the grandiose character of that of the Farnese of Rome.

† The foregoing is the paper read at a meeting of the Royal Institute of British Architects previously noticed.

HOUSES FOR THE VERY POOR.

MODEL lodging-houses already erected have proved that the well-paid of the industrious classes can be comfortably lodged at rents within their means; but hitherto no provision has been made for housing either the *very* poor, or the numerous industrials whose weekly earnings are under eighteen or twenty shillings a week; yet the need for wholesome lodgings for such persons is becoming urgent, in consequence of such great improvements of the metropolis as those of New Oxford and Victoria streets, which have dislodged a vast number of persons without provision of any substitute for the old habitations; hence, houses already crowded are made to receive a greatly increased number of inmates. To mitigate this evil in regard to the *very* poor, outlines of a plan were, some months ago, submitted in a high quarter, and a copy of that proposal is herewith inclosed, in the conviction that, should it appear in the *Builder*, philanthropists, whether in combination or individually, might be induced to erect common lodging-houses of some such description as therein indicated.

But though that plan had in view the housing of the *very poor*, it could not be suitable for the meritorious persons of slender earnings, but who would rejoice could lodgings be afforded them at a low rent, which would give the means of cleanliness, decency, privacy, and comfort—lodging-houses intermediate between the common ones proposed and those that are denominated model lodging-houses. For such a description of intermediate lodging-houses it would seem desirable that all accommodations should be afforded that are really essential, though without any superfluous ones, or unnecessary space in either living or bed rooms, or providing other than the cheapest means of ventilation, warmth, and cookery.

To obtain the above-desired ends, it would seem essential that each family should have its distinct set of small apartments: they might consist of an entrance-lobby, a sitting-chamber, a separate space for the parents' bed, a bedroom for girls, and another for boys.

In proceeding to details, it should be kept in mind that cheapness is sought, not superfluous space, and that for healthful ventilation space is not requisite, but change of air, removing that which is vitiated by respiration or otherwise, and supplying its place with air that is uncontaminated. It must also be observed that cooking and washing are amongst the most prominent causes of dirt in ordinary lodgings, and therefore it is that these processes are proposed to be carried on in appropriate, but separate, kitchens and washhouses—not in the lodgings themselves.

The essential parts of the contemplated structure should be fireproof; the beams at least iron, walls and partitions brick: better that the interior of the latter should be glazed, or faced with slate, this being cleanlier than either whitewash or paper. A general system for warming, ventilating, and lighting the several apartments, to be provided from the first. To avoid the dirt and other nuisances consequent on in-door staircases and corridors, the several apartments would best be entered from outside open galleries, say 3 or 4 feet wide, quite ample as a passage, yet not wide enough for an upper one to keep the sun from the apartments below, especially during the winter months. Each apartment itself would suffice if the interior were 12 feet wide, 14 feet deep, exclusively of partitions: it might consist of an entrance-lobby, 4 feet square, from which a door to a sitting-room, 8 feet square: the 4 feet behind the lobby would be for the parents' turn-up bedstead; the anterior of the apartment, having a borrowed light from the sitting-room, 6 feet deep, divided by a narrow passage from front to back into two separate bed-rooms, the one for boys, the other for girls.

With a view to economy in building, two sets of apartments might be erected back to back, each set having its entrance-galleries; the structure being four or five storys high, besides a half-sunk basement story.

Thrifty families being averse to observation of what they consume at meals, it is supposed that they would be eaten privately in the sitting-rooms; but as provisions of all kinds can be most economically both purchased and cooked in large quantities, no fire-places are provided in the apartments; but the lodgers would find it both cheaper and cleanlier to purchase their provisions ready prepared by a competent cook in a kitchen in the basement: a fixed price for each week might be set for the several articles provided, and even some one of the lodgers might be appointed as supervisor of culinary proceedings.

For most perfect ventilation and warmth at pleasure in the apartments, an apparatus in the basement story to warm and ventilate the whole of the lodgings. It should include *extractors* for drawing out vitiated air, and pipes for supplying fresh air in lieu of that extracted; the fresh air, either heated or cold, according to the season. Both extracting and the supply-pipes should enter into every division of every apartment, and be furnished with slides to regulate the quantity of air extracted or supplied, at the pleasure of the inmates; provided, however, that neither the one nor the other could be entirely cut off. This part of the project would ensure a degree of ventilation and of warmth rarely, if ever, attainable in the lodgings or houses of industrial persons, or even in model lodging-houses, or in those of wealthy individuals.

As to laundries and baths, those that are in activity testify their value, and the appreciation of them by the people. Baths and washhouses in the proposed structure would be more convenient to its inhabitants than if in a separate building, but so much show has already been displayed in those established, that details respecting their construction are superfluous; yet it may be observed, that in connection with a kitchen and heating apparatus, both baths and washhouses would admit of being opened for use at such times only as would best suit the convenience of the lodgers.

Instead of the expense of furnishing every apartment with water, a supply of it at the centre of each floor would be sufficient, seeing that neither the washing of apparel nor the scouring of kitchen utensils would have to be done in the apartments. So at one end of each gallery might be a closet for men, at the other end one for women,—an arrangement which would preserve the apartments from the odours inevitably attendant on closets within small apartments.

It seems needless to add that the proposed apartments would be particularly suitable for joint occupation by two single women, who earn a scanty livelihood by needle-work, as, for instance, those employed as journeywomen by milliners, mantua-makers, upholsterers, &c.

The plans for these "intermediate," as well as for the "common lodging-houses," have been formed on data left by a late eminently-successful officer in the public service: he proved that buildings entirely fire-proof could be erected at a less cost than according to the usual modes. It is not attempted here to give precise estimates, though it has appeared that the proposed apartments would give a fair return for the capital expended on them, supposing each apartment to be let for half-a-crown a-week, —ventilation, water, and artificial heat included in that same, were it paid weekly in advance. Lodgings for the poor in ordinary buildings pay better than any other head of house property; why should not the proposed "intermediate" and "common lodging-houses" be equally remunerative?

COMMON LODGING-HOUSES.

It appears that a common lodging-house, which its proprietor can let for 25*l.* a year, brings in to the under-tenant no less a sum than 120*l.* per annum: this affords conviction that lodging-houses on the plan below suggested would be self-supporting, although the charge for a night's lodging should be no more than one penny, or 6d. for a week if paid in advance, and that various accommodations were provided that are incompatible with common lodging-houses as they are at present.

The effects sought to be produced by the proposed plan are:—

1. Isolation of the lodgers, excepting in the case of married persons or families.
2. Extreme cleanliness of lodging.
3. The affording means of personal cleanliness at little cost, but optional, however, on the part of the lodger.
4. Complete separation of the sexes, unless in the case of married persons, and of young children.
5. Supervision of the lodgers, but without annoying them with individual inspection.
6. Classification of lodgers in some degree.

In this view it is proposed that a model building should be erected, differing in many particulars from any other that has been hitherto built, though adopting all parts of existing structures that are suitable. The proposed building fire-proof throughout; its skeleton, therefore, of iron, as the cheapest metal,—cast

for parts having to resist pressure, wrought iron against tension; walls, floors, and ceilings, all of slate, with a view to cleanliness and the avoidance of damp.

Seeing that cheapness of lodging is a first-rate desideratum, the space allotted to each single person need not exceed a length of 6 feet by a width of 2 feet for the bed, with an addition of 18 inches beside it. No two lodgings to communicate with each other, excepting in the case of married persons or families. All lodgings to be entered from an exterior gallery, which need not exceed 2 feet in width.

This being the general outline of the proposed lodging, it is evident that a single set of them would be both unstable and too costly; but a double set of such lodgings, back to back, would, with their respective galleries, give a width of 16 feet, exclusively of walls. This double set might be connected with a similar one, leaving a chasm for air and light between the two; the connection being made by iron ties serving as beams, and carried from the front of one set of lodgings to the front of the other.

An iron grating might suffice for the galleries, and a slighter one to support the floors—the floor of one story serving for the ceiling of that below it. The partition walls might be formed of perpendiculars of iron, cast with grooves to admit of the slipping slates into them—the iron, of course, galvanized to prevent rust. Slate is the only material to be procured at a cheap rate in large slabs, which can be easily washed without absorbing moisture during the operation—slate is on this account indicated, although late improvements in our potteries may enable them to furnish glazed tiles of large dimensions. It would be essential that the walls of the lodgings should be in large slabs to avoid recesses in which vermin could harbour.

Many arrangements would be desirable for the promotion of cleanliness. The bedding of each floor might with little trouble be daily placed in an appropriate chamber furnished with racks to support the mats and keep them apart: they might be there either fumigated or steamed so as to destroy vermin, and the germs of contagion: if steamed, the bedding might be dried by the charge of a current of hot air through the chamber. The further purification that would from time to time be requisite, might be given in an appropriate washing machine. The lodgings themselves being of slate, might be even daily washed by means of a sort of mop; ceilings and walls, as well as floors. Lodgers, the most filthy, would soon feel the comfort of a clean room and bed, and of being freed from the insects that infest the present common lodging-houses; so that it might reasonably be hoped that this in many instances would lead to improvement in personal cleanliness.

It could not be expected that such model lodging-houses would at first be sought by the very depraved of either sex; but it must be called to mind that many virtuous individuals are driven by poverty to seek shelter in the ordinary ones—that they there lose all sense of modesty and shame; nay, too often are initiated in vice and guilt. To save those of this description from contamination, would seem of itself an ample reward to the philanthropists who might establish such cheap and wholesome refuges for the guileless laborious poor—the poor of both sexes, who by necessity, not choice, are driven to earn their morsel by such low callings as hawking caps or paper. M. S. B.

Building Accidents.—The boarding of a scaffold round the tower of St. Matthew's Church, Bedford New Town, gave way on Monday last, under the weight of a heavy stone, together with that of six persons, who stood too much in the centre at the same time. Strange to say, although at an altitude of 70 to 80 feet, all who fell to the ground escaped with slight injuries, except one poor fellow, who was shockingly mangled. Another clung to a rope as he fell, and was extricated without injury.——An inquest is being held at Plymouth on the bodies of five boys, who were killed by the sudden fall of two houses in Southside-street there, on Thursday in last week. Several other boys were more or less injured at the same time. From what we can learn, the houses seem to have been sold for building materials, and had been partly taken down when the accident occurred.

MR. RUSKIN'S LECTURES.

The third lecture given by Mr. Ruskin in Edinburgh was devoted to Turner and his works, and, looking to the local newspapers, we find the lecturer commenced by mentioning two notable characteristics of Turner—his industry, and the great pains he bestowed on everything which he did, for whatever purpose it was intended, or whatever its price. During his earlier career he devoted himself extensively to copying the pictures of others, making himself master of their peculiar styles, and showing that he could equal and even excel them upon their own ground. The period however came, when he felt his superiority, and resolved to assert it; and this period was definitely marked by his publishing a series of engravings, which were nothing less than a direct challenge of Claude on his own terms and on his own ground. The series, denominated "Liber Studiorum," was in direct imitation of Claude's "Liber Veritatis"—long considered to be a masterpiece of landscape art. Before proceeding farther with his remarks on Turner, the lecturer gave a sketch of the different schools of painting up to the present time. The fourteenth century was the age of thought—the age of Dante and Giotto. The men of the following century—the fifteenth—felt that they could not surpass their predecessors in invention, but that they could immeasurably in execution; and they did so. This, then, was pre-eminently the age of drawing—it was the age of Leonardo, Michelangelo, Lorenzo Gioberto, and Raphael; and yet it must be recollected that these great men borrowed their principal ideas from the former century, and that it was a rare thing to find in them an original thought. The sixteenth century was the age of painting; and it was distinguished by four names—Corregio, Titian, Paul Veronese, and Tintorett—the greatest colorists the world had ever seen.

For a long period landscape was necessarily neglected. It was the last thing thought of; and the most difficult thing to do, because it required a knowledge of botany and of many sciences which were merely in their germ; more especially perspective, in order to enable the artists to express themselves properly in landscape, was wanting. In the beginning of the thirteenth century, the landscapes first took a superior form to that which they had had in Missal-painting. The school of Leonardo introduced a considerable alteration, the main difference being the introduction of an exquisite variety of colouring, the distance being kept blue, not in the sky merely, but by aërial perspective; and the plants in the foreground executed with a finish that nothing could ever surpass; but they could not paint rocks or mountains. The great innovator on this school was Titian; his mountains were much closer to nature than those of anybody else; his forests he freed from all conventionality, and brought out in most perfect majesty of foliage, painting the bramble and the daisy and the rose, all with their perfect flowers, but freely and easily, as Nature threw them out upon the ground: the accuracy with which he followed the outlines of the stems of trees was very great. The three great schools, then, which he had enumerated, might be termed the Giottesque, the Leonardesque, and the Titianesque. The course of the mind of Europe was to take a fourth step, to rid landscape of all conventionalities, and to make nature the principal subject of study. The step was taken by Claude and Salvator; but it was taken in a paralysis, so that more was lost than was gained. There was a great gulf, full of nonentities and abortions, a gulf of foolishness, into which they might throw Claude and Salvator. Out of this a new school arose, a modern school of landscape: and if a name was wanted for it, he would give it in a moment. Titian only drew trees well; Turner drew everything well. He was greatest about 1842; engravings gave no idea of him; he owed nothing to them but a diminution of his greatest qualities. He was the first man who ever presented us with a perfect landscape.

They had thus five periods to recollect—viz. Giotto, Leonardo, Titian, Pastoralism, and Turner. But his (Turner's) work was as yet only begun. His greatness was yet denied by many; but every day that he lay in his grave would bring some new acknowledgment of his power, and through those eyes, though now filled with dust, generations yet unborn would learn to uphold the love of nature. He might be called dogmatic; but he would tell his audience, what he had given twenty years of his life to ascertain, that Turner would one day take his place beside Shakspeare and Verulam in the annals of the life of England—the third star in that great central constellation around which, in the astronomy of intellect, all other stars made their circuit. By Shakspeare humanity had been unveiled to us, by Verulam the principles of natural science, and by Turner the aspect of nature. All three were sent to unlock one of the gates of life, and to unlock it for the first time; but of all the three, though not the greatest, the most unprecedented in his work was Turner. Bacon did what Aristotle had attempted; Shakspeare did effectively what Æschylus did partially; but none before Turner had lifted the veil from the face of nature. The landscape of the hills and the forests had before received no interpretation; the clouds passed unrecorded over the face of the heaven which they adorned, and of the earth to which they ministered.

TO FIND THE DEFLEXION OF WROUGHT-IRON PLATE GIRDERS.

In order to complete our investigations respecting wrought-iron girders, it will be necessary to show how the effect upon a girder may be found as regards the deflexion in the middle, when loaded by a weight. The method which we shall adopt is that employed by Mr. E. Hodgkinson in calculating the deflexion of the Conway Tube, and given at p. 173 of "The Report of the Commissioners on the use of Iron in Railways." The mathematical reasoning by which the formula is obtained is given in that report, and also by other writers on the subject; but as it involves more of the differential calculus than most of the readers of the *Builder* will care to see in its pages, we will merely take the results.

The formula which we previously found (pp. 646 and 677), for the strength of a wrought-iron girder, was,—

$$w = \frac{4f}{l} \times (CN)^2 \times (2t \times AB + \tfrac{2}{3} s \times CN + 4a)$$
$$= \frac{4f}{l} \times m,$$

where $m = (CN)^2 \times (2t \times AB + \frac{2}{3} s \times CN + 4a)$, then the formula obtained for the deflexion (δ) in inches is as follows:—

$$\delta = \frac{w \times (\frac{1}{2} l)^3}{6\, m\, .\, E.}$$

Where E is called the *modulus of elasticity*, and is taken at 10,714 tons, w being also in tons, and l the length of the girder in inches.

Let us apply this formula to the three examples given at p. 677.

In example 1, we have $m = 6^2 \times 11 = 396$, $w = 17{\cdot}6$ tons, $\frac{1}{2} l = 60$ inches; therefore,

$$\text{deflexion} = \frac{17{\cdot}6 \times 60^3}{6 \times 396 \times 10714} = 0{\cdot}15 \text{ inch},$$

or about $\frac{1}{7}$ inch.

In example 2, we have $m = 396$, $w = 8{\cdot}8$, $\frac{1}{2} l = 120$ inches.

$$\text{Deflexion} = \frac{8{\cdot}8 \times 120^3}{6 \times 396 \times 10714} = 0{\cdot}6 \text{ in. or } \tfrac{6}{10} \text{ in.}$$

In example 3, $m = 12^2 \times 13 = 1872$, $w = 20{\cdot}8$ tons, $\frac{1}{2} l = 120$ inches; therefore,

$$\text{deflexion} = \frac{20{\cdot}8 \times 120^3}{6 \times 1872 \times 10714} = 0{\cdot}3 \text{ in. or } \tfrac{3}{10} \text{ in.}$$

To find the deflexion of a beam when a weight is distributed over the whole length, we have to take $\frac{5}{8}$ths of the deflexion which it would have if the same weight were suspended from the centre. Now, the beam will bear twice as much when the weight is distributed as it will when the weight is laid on the centre; but the deflexion in the middle will be rather more in the former than in the latter case.

Let d be the deflexion in inches when the

weight ($2w$) is uniformly distributed; then we have,

$$d = \tfrac{5}{8} \times \frac{2w \times (\tfrac{1}{2}l)^3}{6m.E} = \tfrac{5}{4} \times \frac{w \times (\tfrac{1}{2}l)^3}{6m.E} = \tfrac{5}{4} \times \delta;$$

therefore, $d : \delta :: 5 : 4$, or, the deflexion caused by $2w$ distributed uniformly is to the deflexion caused by w suspended from the centre in the proportion of 5 to 4.

To find the deflexion of a beam arising from its own weight alone, let W be the weight of the beam in tons; then,

$$\text{deflexion} = \tfrac{5}{8} \times \frac{W \times (\tfrac{1}{2}l)^3}{6m.E} \text{ in inches.}$$

The calculation of the deflexion will greatly assist the practical man in arriving at the best proportion for a girder in any particular case, as it is frequently as important to find the means of preventing any perceptible deflexion, as to find what weight the girder will safely bear. E. W. TARN, M.A.

STRENGTH OF WROUGHT-IRON PLATE GIRDERS.

YOUR correspondent "E. W. Tarn" having favoured us, at pages 646 and 677, with certain formulæ for finding the strengths of wrought-iron plate girders, which to some of your readers (myself included), appear at variance with our preconceived notions of the relative values of the powers of malleable iron, I shall be glad to inquire of that gentleman his reason for basing his calculations on the following erroneous supposition,—"*that the resistance*" of malleable iron "*to compression is equal to the resistance to extension.*" This supposition at the outset of his explanations leads him into numerous errors of great practical importance, one of which is, that he is compelled to assume that the neutral axis passes through the centre of the section of the girder—that is, that it divides the girder into two *equal portions*; and another, obliges him to make the top and bottom plates of equal size.

I will not occupy your space at the present time by discussing whether Mr. Tarn is right or wrong in suggesting that the top and bottom plates should be equal, because the elements which affect this knotty point have not been introduced into his calculations; besides, that gentleman is at perfect liberty to adopt any form he pleases, if it is by way only of hypothesis.

According to the best authorities, the ultimate resistance of malleable iron to extension is stated to be on the average equal to nearly twenty-seven tons per square inch, whilst the ultimate resistance to compression amounts to as much as fifty-six tons per square inch, or nearly as two to one. If this be the case, the neutral line will evidently not be in the centre of the section, but will be situated at a distance from the top of the girder of about one-third the entire depth of the section; therefore the value of CN is not in the proportion given in the arithmetical expressions of Mr. Tarn, and consequently the results which are deduced therefrom are not accurate. W. G.

In demanding the reason for the assumptions which I have made in my paper on wrought-iron girders, your correspondent "W. G." has overlooked my statement at the outset to the effect that the following investigations were an adaptation to ordinary girders of those employed by Mr. Eaton Hodgkinson in calculating the strength of the Conway and Britannia bridges, which are given in the parliamentary Report on the use of Iron in Railways. If he will take the trouble to refer to that report, he will find at p. 164 that the calculations are based upon the *assumed* perfect elasticity of the material, the neutral line being then in the centre of gravity of section. The same assumption of perfect elasticity is also made by Mr. Tate in finding the strength of the same bridges (see p. 47 of his Treatise on the Strength of Materials).

This assumption may appear to mere practical men to be "erroneous," but is nevertheless adopted by the "best authorities," being the nearest approximation in the case of wrought-iron plates fastened with angle-irons and rivets. "W. G." states that the ultimate resistance of wrought iron to compression is 56 tons per square inch; by which, I suppose, he means the weight a short piece of wrought iron, as a cube, will bear before being crushed (this appears to be much too great, as a cube of *cast iron* will be crushed with 44 tons per square inch: p. 14 of Report); but with this crushing weight we have nothing to do in plate girders, the resistance being to crumpling or buckling, and not to crushing, the experiments to determine which are given at p. 120 of the Report.

Again, in page 122, Mr. Hodgkinson, in speaking of the resistance of wrought iron to pressure as a column, says that he found "that, beyond 12 tons per square inch, it was of little or no use in practice." Hence it is evident that we should obtain very false results if we assumed that the resistance to crumpling was twice that to extension. For experiments on the tensile strength of wrought iron I must refer "W. G." to p. 48 of Report, where it seems that 24 tons per square inch of section will tear asunder a rod of wrought iron.*

In order to render the formula fit for calculation, the constant quantity, 8 tons, had to be found from experiment (see p. 171), so that any error in the hypothesis would be counterbalanced by this experimental result.

Having given my authorities for the method I have adopted, I will merely add, that my object was to obtain a formula which persons not possessing much mathematical knowledge could apply without difficulty; and had it been necessary first to calculate the position of the neutral line, scarcely any one would have thought it worth while to take the trouble. With regard to the upper and lower flanges being taken of equal width, my reason for so doing was, that it is the most usual form adopted in this kind of girder, leaving it for those who have opportunities of trying experiments to decide on the best form of section to be adopted.

In conclusion, let me remark that it is far easier to find out a fault than to correct it; and as there is no formula to which some exception might not be taken, the only thing we can do is to discover that formula which gives the nearest approximation to the truth; and as my formula is, I believe, the first that has been published for this kind of girder, it must remain unaltered until some one else produces a better one, and founded on better authority. E. W. TARN.

* In an article on Malleable Iron Girders, by Mr. Barry, in the *Builder*, Vol. VII. p. 103, will be found some particulars bearing on this point.

THE LIZARD SERPENTINE.

IN our report of the opening meeting of the Royal Institute of Architects, we noticed briefly that some specimens of serpentine from the Lizard, Cornwall, had been exhibited. These were sent by Messrs. Brace and Colt, and we think it right to add that the specimens excited general admiration from their large size, high polish, and extreme beauty of colour, and that it was stated that the defects arising from the brittleness of the material, and its liability to decay, were almost entirely obviated when the stone was raised from some depth below the surface; in which case it was also procured in much larger slabs. Some of the speakers insisted on the above defects in this otherwise beautiful material, as hitherto worked; but a hope was expressed that, with improved mechanical appliances, much better specimens might in future be brought into the market.

In answer to these observations, Mr. Brace gave a short explanation of the operations at the quarries referred to. He stated that he and Mr. Colt were the first persons who had ventured to open quarries of any considerable depth; that the experiment had been highly successful, stone having been obtained vastly superior both in colour and working qualities to any that had hitherto been produced; that there was every prospect of blocks of large size being readily obtained, of great variety in colour and general appearance; that the specimens shown would compete in point of price with marbles of very inferior quality; and that there was no doubt that the objections that had been raised to stone obtained from the surface and the beach, portions of which had recently been used, would be entirely overcome, as stone of sound quality was readily obtainable from the lower depths of their quarries.

At the Great Exhibition of 1851, the character and importance of the Lizard serpentine were brought prominently before the public; and in the report of the jury upon works in ornamental stone, it is described as "an extremely beautiful marble, of moderate hardness, differing essentially in this respect from the serpentine of Italy and Greece." The colour is extremely varied; that which is commonest and most admired being a rich dark olive green, spotted with red, and traversed with veins of the purest white, but sometimes of dark crimson, and the effect of the stone when in large blocks is, as the jury truly said, rich and noble. It seems that the favourable report of the jury stimulated the exertions of parties whose enterprise had already been directed to the Lizard district, and that the result has proved successful, and serpentine has been obtained of far greater beauty than any exhibited in 1851, or hitherto known. The manufacturing capabilities are also found to improve in the same degree as the beauty of colour becomes developed, and it is asserted that no obstacle exists to the useful and ornamental application of the Lizard serpentine, on a large scale. The material is so beautiful, that we trust these anticipations will be fully realized.

PROVINCIAL NEWS.

Sleaford.—A stone figure, supposed to be a representation of one of the apostles, has been discovered in a wall of Rauceby church, now under repair.

Ipswich.—The Tower church was re-opened on 25th ultimo. The cost of the alterations is about 1,100*l.*, of which nearly 900*l.* have been raised by subscription.

Lee.—The building used as a temporary chapel, in the high road at Lee, near Lewisham, in Kent, having been found quite inadequate, it was determined to erect a more spacious edifice. A site was procured at the expense of 400*l.*, and a design for a new chapel was furnished by Mr. James Harrison, architect; for the erection of which a contract was entered into with Mr. J. Clever, of Haggerstone, builder, to the amount of 2,000*l.* The foundation-stone was laid last week. The chapel when completed will accommodate from 300 to 400, but can be extended so as to admit of sittings for nearly 700. The style is Early English, and the chief ornament a five-light lancet-window. The dimensions of the edifice will be 60 feet and 42 feet, and the external facing will be Kentish ragstone, relieved with Bath-stone quoins and dressings.

Sompting.—It is well known to those interested in the antiquities of Sussex, that the church of Sompting is mentioned in Domesday Book, and that the old tower still exists as it stood anterior to the Norman conquest. Considerable repairs of the roof, both of the tower and of the body of the church, being required, it is proposed (without changing the ancient architecture) to restore the church throughout, and re-arrange the sittings, by which the accommodation, especially of the poor, will be increased. The estimated cost is 1,200*l.*, exclusive of the ruined chapel, which would cost about 300*l.* more. The vestry have voted 400*l.*, on condition that 800*l.* be raised by public subscription. Of this, 561*l.* having been subscribed, the minister and churchwardens hope to be enabled to carry out their plan by the subscription of about 500*l.* more.

Oxford.—The restoration of the south elevation of Jesus College, facing the market, has just been completed. It forms a considerable and unbroken line of building, measuring between two and three hundred feet in length, and is three stories in height. The design exhibits no new features. All the chimneys are in their former positions, but their appearance is said to be improved, and the gable in the centre finished in an appropriate manner. The original windows had been altered and mutilated—some made shorter, and others longer, than in their first construction. Deformities, which made the building look unsightly, have been removed, and new stone has been substituted for

FOUNTAINS AT OSBORNE: DETAILS.

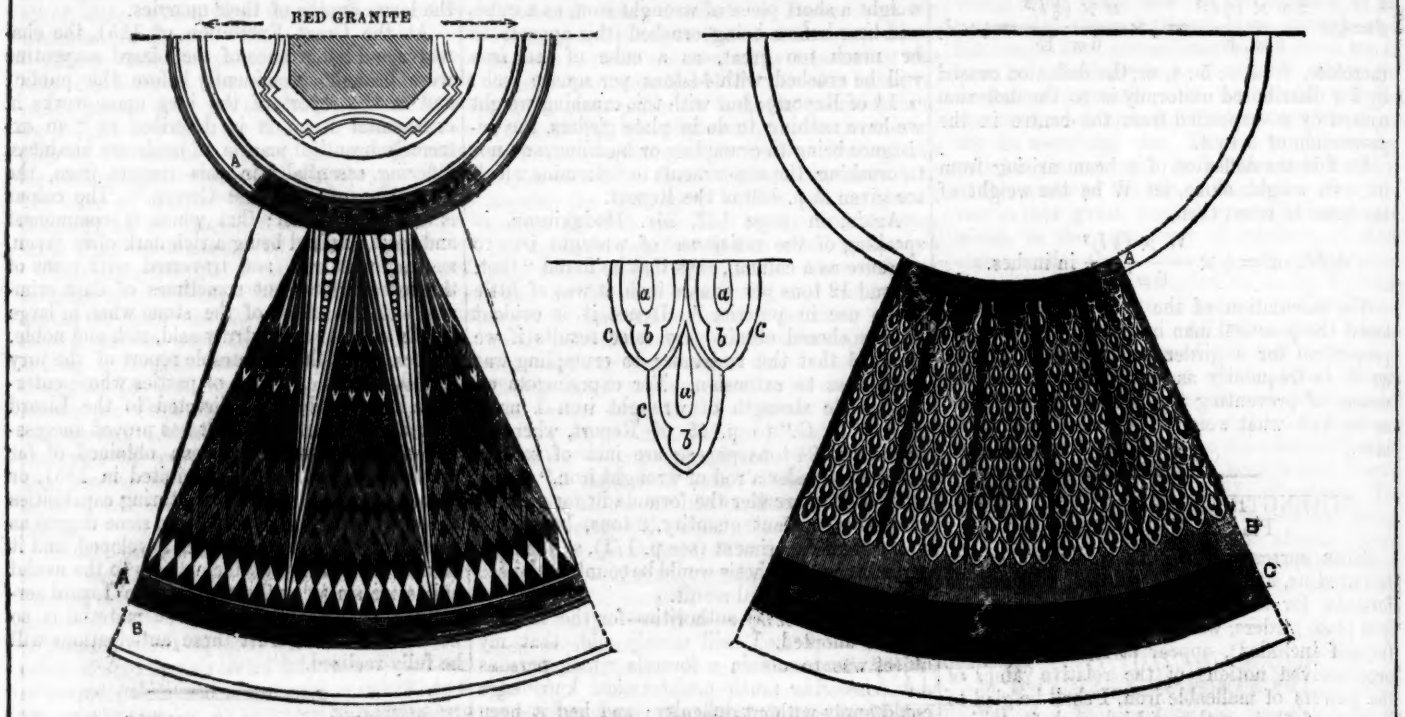


Fig. 1. Fig. 2.

ORSI AND ARMANI'S LAVA-LINING OF BASINS.

what had perished. The restoration has been executed by Mr. James Long, of Witney, under the superintendence of Mr. Buckler, the county architect. The work was commenced early in June last.

Winchester.—The new district church for the parishes of St. Maurice, St. Mary Kalendar, and St. Peter Colebrook, the foundation-stone of which was laid by Mr. R. Seymour, of Crowood, Wilts, on 30th July, 1852, is now mostly completed. The total cost will be 6,000*l*. greater portion raised; but the church will not be consecrated till the whole is contributed. The church is erected from the designs of Mr. Woodyear, of Guildford. The style is Middle Pointed, with extreme plainness of ornament. The number of sittings will be 846, two-thirds free. The east and west windows are filled with geometrical-stained glass. The font was carved and presented to the church by Miss Hornidge, of Easton, near Winchester. It is formed out of a block of Caen stone, and stands on an elevated platform, formed by two stone steps, the faces of which are ornamented with a rich scroll pattern. The decorations of the font, which is octagonal, consist of a variety of Gothic ornaments, in the shape of octofoils, quatrefoils, &c. which, according to the *Hampshire Independent*, are executed in a very artistic manner. This talented lady executed the font in St. Thomas's church, and she is now engaged in carving one for her own parish church at Easton. The district church was erected by the Messrs. Govers, of Winchester, builders.

Cecily-hill (*Gloucestershire*).—It is understood that a spacious barrack for the accommodation of the staff and deposit of arms and stores of the North Gloucestershire regiment of militia, will be erected on a plot of ground close to the entrance of Earl Bathurst's park, on Cecily-hill.

Holyhead.—Rapid progress is being made in the new harbour works, and it is thought the contractors will be able to complete the undertaking in the required time—August of next year.

Sutton.—The project for the erection of a Crystal Palace in Sutton-park, in the neighbourhood of Birmingham, with a railway for the conveyance of visitors to it from that town, has been set aside for the present. The corporation of Sutton refuses to grant any of the land required for a longer term than ninety-nine years, or at a less rent than 1*l*. per acre. The Birmingham town council think that it would not be advisable to lay out large sums in the erection of a Crystal Palace upon land held by such a tenure.

Stockport.—The opening of the Albert Mill, recently erected, was celebrated on Saturday in last week, when upwards of 300 persons sat down to a dinner provided by the proprietors, Messrs. Charles and Thomas Bailey, cotton-manufacturers. The building, which stands on the site of some old warehouses in Mottram-street, was erected by Messrs. Longson, of Heaton Norris. It consists of four stories, and an equal number of rooms running the entire length of the building, each room being 114 feet long by 60 feet wide, and lighted by twelve large windows on each side; the floors, which are composed of 3-inch planks, tongued together by strong iron plates, being supported by two rows of iron columns at equal distances from end to end of the rooms. The engine-house and boilers are detached.

Flaxton.—On Monday in last week, a new Episcopal chapel was opened at Flaxton, near York, and at the same time the consecration of a new burial-ground took place. The new chapel is situated on the site of the old one, which was too small for the population (400), and which had gradually sunk into almost ruinous dilapidation. The entire cost of the new building has been 958*l*. It is capable of seating about 200 persons. The contractor was Mr. Ralph Weatherley, stonemason, who sublet the joiner's work to Mr. Lawson, the plumbing and glazing to Messrs. Hodgson, and the plasterer's work to Mr. Clapham. The architect was Mr. G. T. Andrews.

Huddersfield.—A new arcade, called the Lion-arcade, is in course of being erected here in John-William-street, with plate-glass-fronted shops, fountains, conservatory, promenade, and waiting-rooms, &c. There will be statuary in the promenade and conservatory, to be executed by Mr. Seeley, of London, who has already finished the lion on the top of the building, which is covered with an arched glass roof. The design of the whole was furnished by Messrs. Pritchett and Sons, architects. Mr. William Stocks is the clerk of works. The glass was supplied by the London and Manchester Glass Company, and Messrs. James Hartley and Co. of Sunderland. Messrs. William Fawcett and Sons did the joiner-work. Messrs. W. and J. Hodgson, of York, were the plumbers. The iron-work was done by the late Mr. Walker, of York. Mr. Goodwin was the slater, Mr. Tunnacliffe the plasterer, and Mr. Calvert the painter employed. There are to be three entrances—one from St. Peter's-street, another from Northumberland-street, and the principal one from John-William-street, and which is to be adorned by a stained window.

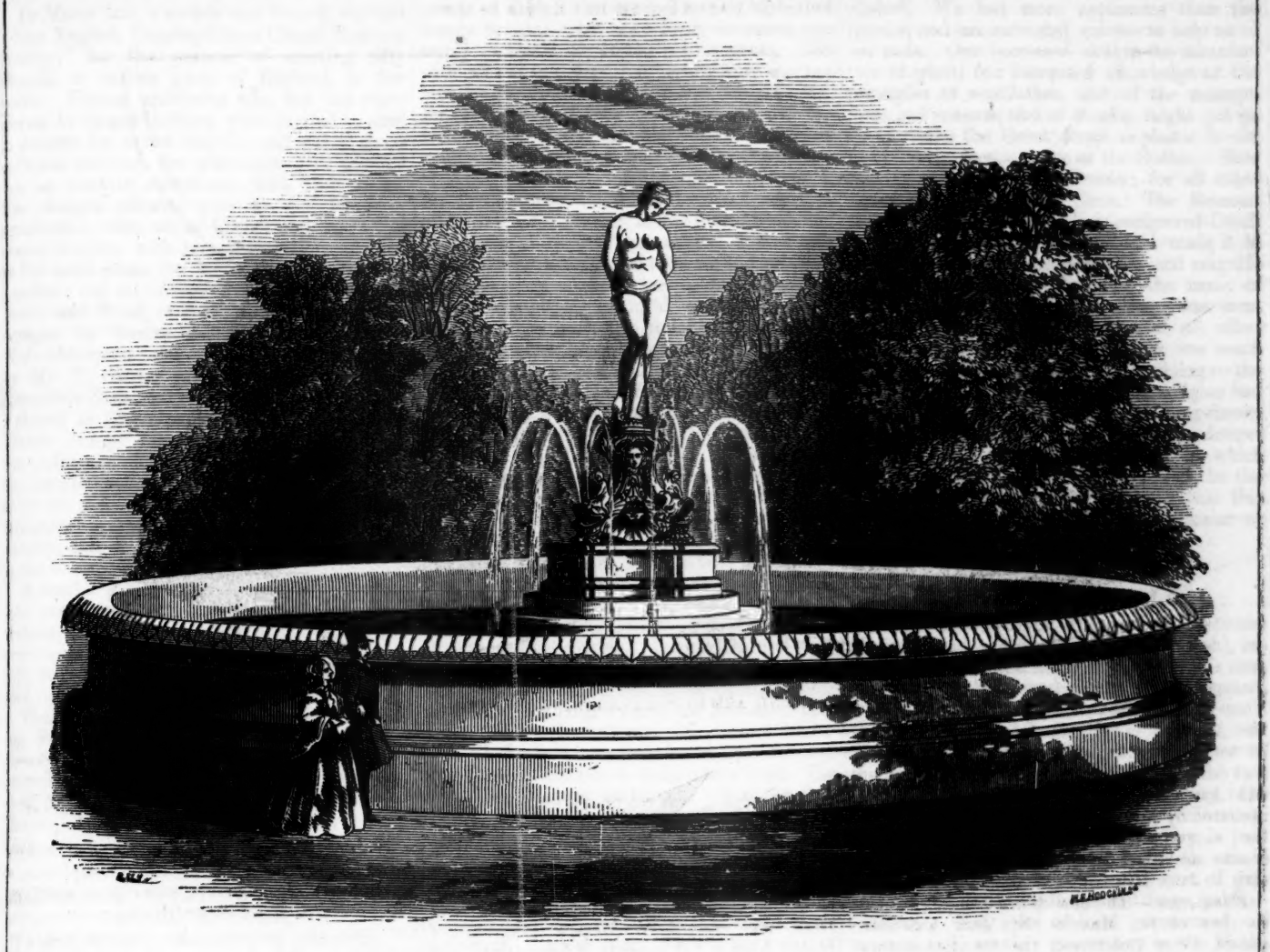
FOUNTAINS AT OSBORNE, ISLE OF WIGHT.

The grounds of Her Majesty' Retreat at Osborne are now assuming an air of completeness and finish which was for some time wanting. The fountains, of which we give representations, are upon the terraces: Mr. Gruner was the designer. The Fountain of Andromeda is 36 feet in diameter, and is 18 feet in height. The base is of red granite, and the statue, by Mr. John Bell, is of bronze. The Fountain of Venus, on the upper terrace, and opposite Her Majesty's chamber, is 20 feet in diameter, and 15 feet in height. The dolphins, stems, and statue are of bronze (the latter copied from the antique), and the work of M. Barbedienne. The two basins are of red polished granite, and were made by Messrs. McDonald and Leslie, of Aberdeen.

Messrs. Orsi and Armani, of Guildhall-chambers, London, have executed the lining of both basins, with their ornamental lava, and, as we understand, with great success. Fig. 1 shows the lava lining in the basin of the Fountain of Andromeda, and fig. 2 the lining in the Venus Fountain: *a* is yellow, *b* blue, *c* grey; each colour in two shades. A and B represent circles of brilliant yellow; C a large stripe of brilliant blue. In fig. 1, A is a Greek band: the first line is bright yellow, the ground a brilliant green, and the Greek pattern red, edged with black and brown umber. B is a brilliant blue, which is carried to the same height as the water; and the side of the basins is covered with lava, of a buff or stone-colour. Looking into the water, it is said to have the effect of an immense basin of porcelain.

The nature of the soil at Osborne made it difficult to obtain good paths: by the use, however, of the metallic lava, the difficulty was overcome. A coat of asphalte one inch thick was first laid down, and was then covered with 1½ inch of lava, in buff-colour, mixed with Ventnor sea-pebbles; and the wear bringing these pebbles to the surface, the floor presents a natural and pleasing appearance. This description of paving for gardens, &c. is very advantageous, as it prevents vegetation, and only requires sweeping to be kept clean. The coloured lavas, too, offer a ready means of decoration.

The fountains are not drawn to the same scale, the size of them being very different; and the representation of the larger fountain is necessarily less than that of the smaller: the accompanying figures, however, serve the mind as a scale to judge by.



FOUNTAINS AT OSBORNE.——MR. L. GRUNER, ARCHITECT.

CONGREGATIONAL CHAPELS.

IN March last, a society was formed, entitled "The English Congregational Chapel-Building Society," for the purpose of erecting fifty chapels in various parts of England, in five years. Various architects who had had experience in chapel-building were invited to send in designs for model chapels; and out of about eighteen received, the committee have selected five as most in accordance with their views. The designs selected were by the following architects:—One set of Gothic and one set of classic designs, with several elevations adapted to the same plans, by Mr. Andrew Trimen, of London; one set of Gothic designs, by Messrs. Foster and Wood, of Bristol; one set of Italian designs, by Messrs. Bidlake and Lovatt, of Wolverhampton; and one set of Italian designs, by Mr. T. Oliver, jun. of Sunderland. The committee have also commenced the erection of a chapel in Queen's-square, Brighton, of which Messrs. Joseph James and Raffles Brown are the architects. The whole of the chapels are to be erected by voluntary contributions, and there are several donors of 1,000*l.* each. The treasurers are Messrs. Joshua Wilson, Arthur Morley, and Rice Hopkins; and the secretary is the Rev. J. C. Gallaway, A.M.

A similar society was formed for London, five years ago, and it has aided in providing sixteen chapels in the metropolis. It is now erecting two large chapels, the one at Craven-hill, Bayswater, of which Mr. Trimen is architect; and another at Blackheath.

The Lancashire Congregational Chapel-Building Society is engaged to aid in supplying twenty chapels; and there are several liberal contributors to its funds, including Mr. Hadfield, M.P. 5,000*l.*; Mr. Kershaw, M.P.; Mr. Barnes, M.P.; and other gentlemen 1,000*l.* each.

MODERN ADAPTATION OF ANCIENT ARCHITECTURE.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

AT the opening meeting on the 24th ult. Mr. Alexander Christie, director of the School of Design, read a paper "On the Adaptation of previous Styles to our wants." We were met, he said, at the threshold of the investigation of this subject by the question, Why adopt any previous style whatever—why not invent a new one? The answer to this was,—we did not require any new style of building. Did our necessities call for such a change, depend upon it the circumstances would create it—the demand would infallibly produce the supply. But no style whatever had sprung into life at once. No man was known as the inventor of any style. It was not known who invented Stonehenge, the pyramid, the arch, or the pointed arch. These went by the names of nations, not of individuals. But, after all, the architectural invention of the present time had not been wholly dormant. Out of the three great principles of architectural construction—the beam, the arch, and the principle of tension, we might fairly claim the third. A strong skew arch or two might be found in old Gothic buildings, but it was only when railways required to cross rivers and roads at all angles that its power and convenience caused it to rise into importance. A century ago a suspension-bridge was built at Durham over a chasm of 60 feet; but it was not till the experiments of Telford on the strength of iron, that these bridges called into play the invention of the architect. In these fairy-like structures, Scotland led the way at Galashiels, Peebles, Dryburgh, Kelso, Montrose, and the pier at Newhaven, and so on till we came to the colossal work of Telford at the Menai Straits; which, again, had to bear a rival in the tubular bridge of Fairbairn and Stephenson. The roofs of our numerous railway-stations showed admirable adaptations of this principle to the covering of large spaces, where lightness of construction was required; while the Crystal Palace, transplanted from Hyde-park to Sydenham, and rivalling in extent the mightiest structures, would, he hoped, long endure for the delight and instruction of mankind. A nation and an age which could produce such works as these, could hardly fear the imputation of want of architectural invention. It was, he considered, from no dearth of the power of design that we had no new style, but simply because what we already possessed was amply sufficient for all our requirements. But with all our imitation, our architecture was not without a distinctive character of its own. Future ages would be able to point out the architecture of the first half of this century as readily as we could tell the buildings of the time of Anne from those of the reign of George I. No age, however, could form a correct judgment of its own achievements, and he feared we should be known more from our aiming at what was good than for the value of what we had attained. One thing we might be sure of—our character was as completely stamped, and would be as clearly read by posterity, in our buildings, as we could now read the refinement of Greece in her ruined temples. In examining the different styles, with the view of adapting them to our present wants, we at once rejected the earlier and ruder styles — such as the Assyrian, the Egyptian, the Hindoo, and the Mexican, from their ponderous, and the Chinese from its fantastic, character. We must confine our attention to those styles which had their growth and development in Europe, where their principles had been educed and their details elaborated, and which had sprung from our wants; and these styles, omitting subdivisions, might be classed under three heads — the Greek, the Roman, and the Gothic. In reference to Greek architecture, the late Mr. Pugin had abused the wooden-beam construction of the Greeks, which he called "the most ancient and barbarous that could be imagined;" and the term "barbarous" had since been transferred from the supposed type to the Greek architecture itself. The Greek architecture barbarous! Was the Parthenon, which neither time nor Turks had been able to destroy, to be called barbarous? Was that architecture barbarous whose deliberately-calculated curves had required the utmost skill and scientific resources of the present day to discover and display? Was that architecture barbarous, of which every line was the result of the most fastidious thought, and the object of the most careful study? Was that style barbarous, the ornament of which was so balanced in its details that not a part could be taken away without making a void that was instantly felt; or a piece added or altered in its plan, without marring its proportions? Barbarous! What was the meaning of the word? It was a Greek word. Johnson defined it in English, firstly, as—"stranger to civility—savage—uncivilised." What was to be understood from an architecture being strange to civility or uncivilised, he could not tell. Or was the Greek architecture savage? Stonehenge was savage, if they would; it was the erection of mere physical force, and it told of horrid sacrifices, better left untold. The second meaning given by Johnson was,—"ignorant—unacquainted with the arts." If this were the meaning intended to be applied to Greek architecture, such an assertion was rank absurdity. But there was one more interpretation,—"cruel—inhuman." Now, what cruel or inhuman idea was ever excited in the brain of any man by the contemplation of a Greek building? Well might Hume say, "We are apt to call barbarous, whatever departs widely from our own taste and apprehension." He (Mr. C.) did not envy the mental constitution of that man who could call the Greek architecture barbarous. No; it was not barbarous. It was studied, deeply studied, and refined; it was symmetrical in its proportions; it was adapted to its ends; it was, moreover, consistent, and they would never find, in works devoted to the great gods, anything of the grotesque, which was more than could be said of the Gothic architecture of the Middle Ages. We were only now becoming acquainted with the principles of Greek architecture, as we were, indeed, of the Gothic; but if successful adaptation were to be the criterion, alas! for the Gothic—it would be banished from the land. The great difficulty in regard to the Greek seemed to him to be in the light not admitting of more than two stories, one lighted from the sides, the other from the roof. But be it remembered, that architecture was a fine art, not an exact science. It was perilous to prophesy that anything was impossible. A man of genius arose, and the feat was accomplished. We had more appliances than the Greeks, and an extended science to help us to our ends. Our increased skill in the manufacture of glass, our increased knowledge of the principles of ventilation, and of the management and consumption of smoke, might yet go far to render the Greek forms as plastic in our hands as the Romanesque or the Gothic. Now for the children of the Greeks; for all other styles had sprung from them. The Romans pretended to no art, but they conquered Greek art, and yoked to it the arch, and made it do their bidding; and the gorgeous and magnificent style which we know by the name of Roman was produced. This change was most important, as the starting-point of all other styles. We had in it an element too much neglected in Protestant church-building — the polygonal or circular form. Our religion had ceased to be processional, and the long-drawn aisles, the naves, and transept, were no longer required. We required now a place in which all might see and hear, and might unite in the worship; and he ventured to think that this would be found more readily in the circular or polygonal than in any other forms.

A NUT FOR KING CHOLERA.

In Gloucester-street, Haggerstone (between Hackney-road and the Canal on its north), interment of the dead amongst the living *is* continued in a churchyard about 20 feet square, which faces boldly on this street, with its earth already *some feet above the level of the road*, and noxious weeds rearing their heads. Close to the ground there are, on the west side, the two gasworks; behind it, a lamp-black factory. On the south, also, a large engine-factory (Gilbert's): on the south-west a new soap-factory is just allowed to rear its pestiferous head—the whole wedged in and hemmed round with rows of private dingy-looking dwellings, and dingy, pale inhabitants. Yet, spite of local government, of imperial *talk*, another gasometer, in the Hackney-road, is rearing its monster body, and no attempt to stop these nuisances is made. The working classes should refuse to occupy such places, and thus secure a remedy, as well as a punishment to careless landowners.

C. NASH.

FOREIGN ARCHITECTURAL AND ART INTELLIGENCE.

Statistics of Cathedrals.—A German magazine makes the following arrangement of the largest edifices in the world. The majestic Cathedral of Speyer is the greatest monument of the Romanesque, or so-called Byzantine style, in Germany—in fine, *the* largest of all completed German churches; larger than the cathedrals of Ulm and Strasburg, and therefore still larger than the buildings of Mayence, and St. Stephen of Vienna; and the cathedral of Speyer is only surpassed by the *Dom* of Cologne. Considering the churches out of Germany, the largest throughout the world, are—St. Peter, at Rome; the *Dom* of Milan; St. Paul's, at Rome; St. Sophia's, at Constantinople; the Cathredal, at Florence; and St. Paul's, in London. All these churches, enumerated here according to their size, are larger than Cologne Cathedral, even in its completion. St. Peter's, at Rome, occupies an area three times that of the Cologne Dom: of similar size with the Speyer Cathedral is that of Anvers, and only next to that is Notre Dame, of Paris.

The Wartburg of Luther Memory.—The Grand Duke of Weimar has commissioned M. von Schober with the fresco ornamentation of that old historical structure. The execution of the works will occupy two or three years, and one of the large halls (*der Landgrafensaal*) will be ornamented with pictures of the history of the dukes of Turingia.

Family Album of the King of Prussia.—The present king is much interested about monuments connected with the *Hohenzollern* family, and possesses a valuable album of drawings of that kind. Relating thereto, some excavations and researches have been made of late, in the old Stifts Kirche, of the Convent of Heilsbronn, which being founded in 1132, contains several highly-interesting monuments of the Markgraves

of Anspach and Burggrafen of Nürenberg, the ancestors of the present monarch of Prussia.

Rome: Cornelius.—News received from Italy bring satisfactory accounts of the health of the great *Meister*. The King of Prussia has commissioned M. de Cornelius with an altar-piece for the new Dom at Berlin, which—a grandiose composition—is now being executed by the painter.

Architecture of Lima, South America.—A correspondent, residing in the country, gives the following account of the buildings of Lima. They are erected in the different styles of the Renaissance; but the original Mauresque style of mediæval Spain is always mixed up with it, and these hybrid structures were yet altered by those vast repairs which followed the great earthquake. The churches have mostly two turrets, united by a façade, and a *fronton* of the form of a segment of a circle adorns the principal entrance. Often, a many-coloured wash of striking hue covers the churches: others have preserved their natural colour. Stone is seldom used, except where absolutely necessary. The ornamentation of the façades is often complicated, as the stucco with which they are covered is more pliable to the fantastic decorations of American artists; and thus mouldings after the antique, guirlands, festoons, little statuettes, are met with in profusion: at other places, the stucco is perforated in the shape of madrepores, and the columns covered with circles and mouldings, which, without being artistically correct, still impart on original aspect to these buildings, seen under the strong glare of a tropical sun.

Charitable Art-Exhibition, Cracow.—Some of the inhabitants of this ancient Polish metropolis have made an art-exhibition, to aid the establishment of a *salle d'asile* for little children. This exhibition is interesting, on account of some pictures of living *Polish* painters, as a portrait by Rodabowski, which won the great prize at Paris; and the taking of Saragossa, under Chlopicki, painted by Suchodolski.

Berlin Academy of Arts.—The *interregnum* of the presidential dignity still continues here, although the affairs of the academy seem to suffer by this headless condition. Of course, where men like Cornelius, Caulbach, Rauch, &c. are at hand, a choice amongst them would not present any difficulty; still it has been rightly objected, that such men are not to be manacled by the drudgery of office. Dr. Olfers, and the art-author, M. Schnaase, are now spoken of as the future directors of the Berlin high-art school.

OUR THOROUGHFARES.

London-bridge.—The want of accommodation for the increased carriage traffic has become a question of great interest, and many schemes of more or less magnitude have appeared, purposing to remedy the evil, of which so many feel the annoyance. Nowhere do we find this want of room more evident than on London-bridge, and I beg to submit the following plan for its amelioration.

I propose to do away with the footpaths on each side of the bridge, and give the entire width to carriages. And for foot-passengers, I purpose to construct, over and above the present bridge, a second platform, constructed of iron and wood, and supported on iron pillars of a height to allow the highest loaded waggons to pass under it. This upper bridge, commencing at where now stands the second lamp, I would ascend to by a long inclined pathway on each side.

J. C.

Ludgate-hill.—I have just seen a letter in your journal suggesting the removal of the south side of Ludgate-hill, and your remarks as to the probable enormous expense. Will you allow me to offer the following suggestion, which I have not yet seen in print?—Continue New Cannon-street along the back of St. Paul's-church-yard, and remove the very inferior property at the immediate back of the existing houses on the south side of Ludgate-hill, flush up with their back premises, reserving only a right of frontage into the new street to be thus formed. The advantage of possessing a *second* front would be appreciated by the proprietors and occupiers of the shops in Ludgate-hill, who would no doubt pay liberally for the privilege of putting shop-fronts in the new street. This plan might be carried out with the houses on the south side of Fleet-street, up to the boundary of the Temple, where, by a short new thoroughfare into Fleet-street, and the removal of Temple-bar, with a short street on the site of Shire-lane, to Carey-street, which I perceive is about to be widened, would offer, I think, a solution of the important and oft-repeated question, "What is to be done with Ludgate-hill?" BRIGHTONIENSIS.

*** The question involved has been mooted in the Court of Common Council, and referred, we believe, to the Improvement Committee for a report.

The Bridge-house Estates Committee have been instructed "further to consider and report on the plans and estimates for the erection of a new bridge between Southwark and Blackfriars bridges, and the approaches thereto, in order that the Court may be enabled to form a comparative estimate between the erection of the new bridge and the sum necessary for the purchase of Southwark-bridge."

NOTES AND INQUIRIES.

ARCHITECTURAL AND ARTISTICAL.

Architects' Charges.—Where an employer provides a considerable portion of the materials for building, and employs an architect to prepare plans, &c. and superintend the works, is he entitled to charge his commission on the value of the building, or only on the amount of labour contract? SUB.

*** On the value of the building.

Symbols of the Evangelists.—Do any of your readers know what authority there is in that word in which the man of God is "thoroughly garnished unto *all good works*," for taking the four living creatures of Ezekiel and the Revelation as symbols of the two apostles, John and Matthew, and of those other two who wrote the things "most surely believed among us, even as they delivered them unto us, which from the beginning were eye witnesses and ministers of the word?" QUERE QUARE?

THE BRITISH ALMANAC AND COMPANION FOR 1854.*

A DECIMAL COINAGE, the census, baths and washhouses, administrative and financial improvement, Ireland's prospects, are amongst the subjects treated of in the new "Companion,"—the first very clearly and *advancingly* by Mr. De Morgan. In the section devoted to "Architecture and Public Improvements," the writer has sought "to condense as much information as was consistent with his narrow limits (twenty-eight pages), in connection with the enforcement of general principles of taste rather than the indulgence of individual censure,"—a large amount of the information so condensed being of course furnished by our journal. We quote some of the introductory matter:—

"There are evidences that great changes are in course of realization as to the popular perception and knowledge of the fine arts. It is very gratifying to observe many of these evidences in buildings in progress, or which have lately been completed. Yet there has, during the past year, been too much reason for continuing to believe, that in its several provinces as art, science, and practice, or as the matter of a profession—architecture, as existing, is behind the standard of the age. The professional bearing of the question is important, because whilst the discreditable and unwise proceedings of building committees continue, or whilst in the vast majority of houses, architects are not employed at all, so long do the public deny themselves such advantages as exist, whatever these may be. The profession, however, should maintain its position, and justify such assumption by establishing a system of education in accordance with the great and multifarious demands upon professional knowledge. *Popular* education in science and art—no less required—is being much advanced by the "Department" at Marlborough-house; and some important steps have been taken during the year.

At present, it is to be regretted that the important question of style—here forced upon our notice—is one over which architects have no control. The *choice* in each case is the act of the public, to whom the anomalous discrepancies are due. With trifling exceptions, every successful period of taste in former days left but one style: and to persevere in any *one* now, would be better than the practice in vogue. Even those who are for the general use of Gothic architecture, are not much less in the act of obstructing recognition of correct views, since there are perhaps as great differences between the "Early English" and "Decorated" styles in Gothic, as between the Greek and Italian in classical architecture.

To attain a high position in art, as well as to prevent unmerited depreciation of costly works within a few years of their erection, this question therefore should be settled, as we think it would be if architects were allowed to work it out. It is of far greater importance that the public should possess real love of the *art*, than that they should become able to detect minute differences.

Some of the principal buildings in progress during the year show a disposition to work out the style most accordant with ordinary town-houses—the Italian—and which, from that fact alone, must long prevent the general assumption of any other. But in collegiate institutes, schools, and many other buildings, the late Gothic, Elizabethan, and Jacobean styles are still followed, whilst in Leicester-square, the able architect of the Panopticon Institution has had forced upon him a style of still later reproduction. The very merits of some of these works individually are disadvantages as to the general direction of public taste.

As regards the appropriate character of church architecture, the proposal to erect a great number of new churches—eighty in the diocese of Manchester alone—finds the question still unsettled; and indeed it must remain surrounded with difficulties, so long as the clergy are at variance one with another upon points of doctrine and ritual observance.

With reference to the art in general, and to the practice of building,—the vast growth of suburban London, and, indeed, the extension of some towns, would alone render the question of inadequate demands upon existing knowledge an important one. The manufacturing towns of the North have recently shown an appreciation of the value of the art of architecture, which is a subject for congratulation, considering the great wealth now in the hands of capitalists in those places. In the demand for large buildings—as warehouses—and in the possession of good materials, the architects of Lancashire and Yorkshire have advantages of which they have not failed to avail themselves. In Manchester, especially, we are able to discover a character of street architecture not unworthy to be compared with that of other times and other countries. The several municipalities, with the increased wealth of individuals, become of greater influence, and in some cases we hear of sanitary measures of the greatest importance to the towns, and of new public buildings. In fact, London has not made corresponding advances."

Touching the duty of the architect in regard to church-architecture, which is surrounded with difficulties, he says:—

"To settle what use may be made of accumulated materials for art, it would be necessary clearly to apprehend the nature of the *demand* upon the architect. But it might seem that there should be a wide distinction between the case of church 'restoration,' and that of new buildings. Would it not appear that the artist's mind and hand should eliminate *design* in the latter case; and should not an entirely opposite principle prevail in the other? In that—the former case—should we not indeed recognise the soundness of that opinion which denies the possibility of *restoration?* In such case, strict conservation, and the removal of excrescences would form the whole subject for attention. Yet the power of perception of art may assist the efficacy of even these works, though it might not there be allowed to call into exercise the chief vocation of the artist. Yet the question arises, whether a building is to be left to the natural progress, or whether from time to time, as portions decay, they may be replaced with new? Also whether, in cases of neglect, conjectural restorations are admissible, and whether as regards members which appear to have been originally intended, the attempt may be made to supply them? The documentary value of the example may pass away; but is there any æsthetic quality in the entire building valuable and worth preserving? All these questions become difficult in actual practice. Moreover, the buildings are used for a specific *purpose*, which may require increased size, or other new features. How is this to be effected? As regards new work, it may be asked—to what extent should a certain permanence of character be perceptible in the architecture of religious observances? Supposing these questions settled, and the importance of design in new churches admitted, then comes the universal question of architecture—which style of those now in use are we, in the first instance, to follow? For whilst we disclaim all imputation of slavish use of our materials, we must yet work on the basis of some of these, or abrogate the progress made, and recur to initiatory stages of art

* Charles Knight, 90, Fleet-street.

There are, therefore, not wanting those who argue that we shall sooner arrive at a result by working out the mediæval architecture in all structures. Consistently, however, should not these work on only one of the styles into which the general mediæval architecture is divided? But, whatever the final adjustment of the questions which arise, there have been lately some important new works, in which, beginning on the basis of one or other of well-known general arrangements, the mediæval architecture has been made to produce buildings of considerable effect, and which are after all not deficient in many of the evidences of design."

FREEHOLD LAND SOCIETIES.

I WAS very much pleased when I read your article on the operations of Freehold Land Societies; yet there is a great evil still existing in these societies, which, if not remedied, may turn out unprofitable to the speculator and ruinous to the builder. A man may purchase a most eligible site for building, and lay out a large sum of money by erecting first-class villas, and then, to his discomfiture, suddenly discover that neither his land nor houses are saleable in the market. To illustrate this, I give you the benefit of my own experience. I purchased a plot of land of one of the London societies, and, on payment of the money, I was requested to sign a printed form (which they call a contract), and the conveyance was to be made out immediately. I receive my conveyance, and circumstances require me to sell it, having to build immediately elsewhere. I offer the lot for sale, but am utterly unable to sell it, as the title is not good, no abstract or deed poll copy being provided; and I find it will cost me *half of the value of the land* to provide me with the necessary documents to sell. I would not desire to particularize any society, but if the purchasers were to object to sign the deed of transfer until the proper documents were forthcoming, viz. abstracts and copies of deed poll, they would not only save themselves expense and trouble, but would create a reform in the legal transactions of these societies, and a benefit to the public at large.

A LITTLE BUILDER.

ARCHITECTS' AND BUILDERS' ACTIONS.

JOHNSON and OTHERS *v.* TYERMAN.—This was an action in the Brompton County Court to recover 10*l.* and the defence set up was one of interest to surveyors and builders. The plaintiffs are the official assignees of Unwin, a bankrupt and builder. The defendant is an architect and surveyor, and pleaded a set-off to the amount claimed for professional services rendered to the bankrupt prior to his bankruptcy. The assignee's claim was for money lent by Unwin to the defendant. The set-off being first gone into, Mr. Tyerman stated that he, some time since, was employed as architect, where Unwin was engaged as builder. Some difficulties arose between Unwin and Mr. Shaw, whose property they were employed upon, and this made the wind up of the affair somewhat tedious and expensive. It was a common thing for surveyors to owners of buildings to be employed at the wind up, and he was employed between Mr. Shaw and Mr. Unwin to settle the dispute. Unwin, while this wind up was taking place, advanced him (defendant) two 5*l.* for his services.

By plaintiffs' solicitor.—The first 5*l.* he distinctly swears was for services. They were for services not defined. He gave an I O U for the 5*l.* Was concerned for Mr. Shaw's premises in Wigmore-street. Shaw still owes witness 19*l.* In case of a difference on a contract, it is usual for a surveyor to be called in as referee. Mr. Unwin employed him as a referee. Had no special engagement for Mr. Shaw. Considered it to be his, defendant's, duty as surveyor under the contract to see to the books. He had a great deal of trouble with Unwin's books, and considers that the 10*l.* Unwin advanced very little remuneration. Cannot tell why he gave an I O U for the money instead of a receipt.

Mr. Fred. Tyerman, architect, son of defendant, deposed to the trouble the defendant had with Unwin's books.

For the plaintiffs, Mr. Unwin was called. He denied what the defendant had stated about his employing him. The defendant was employed by Mr. Shaw, and not at all by witness. There was a 900*l.* contract between witness and Shaw, and in most contracts there were extras. Mr. Shaw objected to these extras, and the defendant had a right, as Shaw's surveyor, to investigate the extras; and he never heard of a contractor having to pay architects for such services. His bill was reduced 40*l.* or 50*l.* through the defendant's investigation. This money was taken off by Mr. Tyerman, as Shaw's surveyor, and not as witness's. It was not at all likely he or any other contractor would employ a surveyor to cut up his bill. With reference to the money, Mr. Tyerman said, "I am rather short of money, will you lend me 5*l.*?" Witness said "Yes," and then Mr. Tyerman said, "Make it 10*l.*;" and he gave it him, and defendant gave him an I O U for it.

By the Judge.—It was some object to me to get my money from Mr. Shaw. Could not have got it so readily without defendant's signing for it. Perhaps not at all without Mr. Tyerman's seeing to it. Was not pressed for money when he lent the defendant 10*l.*: was solvent at the time.

The plaintiff's solicitor contended, that the money was lent was apparent from the I O U, or otherwise the defendant would have given a receipt. With respect to the services rendered, it was monstrous to suppose a contractor would pay a surveyor to cut down the contractor's bill, as in this instance was proved to have been done. Besides, it was contrary to all custom for builders to pay surveyors employed by others to look after them.

The Judge (Adolphus) said.—The whole question was, whether the 10*l.* advanced was for a loan or for services. He was inclined to think that the money was given for services, and that there was sufficient consideration.

Verdict for the defendant, with costs.

RATING LONDON CLUB-HOUSES.

AT the Middlesex Sessions, the Conservative Club appealed against the amount at which they were rated by the parish of St. James's, Westminster, viz. 2,940*l.* per annum. Mr. Bodkin, on the part of the club, said—In other cases there was no difficulty in having the rateable value ascertained, but there was in property of this description. In the case of this kind of property there were no rents and no profits, and, therefore, quite an absence of the ordinary *indicia* by which the valuer, for the purposes of assessment, could be guided. To say that you were to be guided by the cost of the property was a proposition so absurd that it could not be entertained for a moment. He should like to know if Waterloo-bridge were assessed on what it cost whether the rate would not absorb all the receipts taken by the unfortunate toll-keeper? Houses of this description were built entirely for the purposes of a club, and if they ceased to be such, what were they worth?

Mr. Edwin Foster, of Pall-mall, was of opinion, founded on experience, that, if empty, the landlord ought not to refuse 2,000*l.* a year for the building. He did not consider the superb decorations added to the letable value, supposing the house was without a tenant. The arrangements for servants there were very bad, which was an important element in looking to the value. The kitchen, too, was not at all what one would expect for the building; and, generally, the magnitude of the offices did not correspond with the magnificence of the rooms occupied by the members.

Ultimately an arrangement was come to, and the net rateable value of the Conservative Club was fixed, by consent, at 2,730*l.*; of the Senior United Service Club, at 2,240*l.*; and of the Athenæum Club, at 1,730*l.*

Notices of Books.

The Globe prepared for Man: a Guide to Geology. Adams, Fleet-street. 1853.

THIS is a sort of compilation, based on standard works, but simplified and altered so as to suit the capacities of the young and uninitiated in science. It is written in a light, attractive style, but not well suited to strictly accurate scientific teaching. To describe the crust of the globe, both by words and by sketches, for instance, as covering the interior much as the outer and inner rinds of an orange do its interior, may be the easiest way to give a first glimmering idea of the basis of geology; but the idea is a very false one, strictly speaking, even though it were qualified by some notion of the fractures and tiltings of portions of the strata, an immense proportion of which never at any time lay in any such relationship to the interior, but in sections of circles often sweeping the other way, with their convex side towards the centre of the earth, and their concavity towards the heavens, forming basins of vast area rather than rinds concentric with the interior mass. We acknowledge the difficulty of adapting such knowledge to tender minds; but it is a great question whether it were not better to let alone what cannot be communicated easily without falsification; for first impressions are of vital importance, and mould and bias the mind, it may be, for ever. And besides, this *ad captandum* mode of teaching "the young idea how to shoot" leads inadvertently to other inaccuracies not so excusable on the ground of difficulty: for instance, silicon, one of the principal and most abundant elements constituting the crust of the earth, is a ruddy-brown powder, which tends to stick to the fingers or anything else with which it may come in contact, whereas silex, which is an oxide of silicon, is pure white. Now, here we have the idea instilled into the young mind that "silicon" is a "snow-white substance." Better far that nothing had been said as to so recondite an element as silicon at all, which not very many have ever seen.

Inscriptions and Devices in the Beauchamp Tower, Tower of London, with historical sketch. By WILLIAM ROBERTSON DICK. London: published by P. Ramage, Tower of London.

This is a sadly interesting transcript of the affecting memorials of suffering left by illustrious and unfortunate persons confined of old in the Tower of London. A complete representation is here given of the inscriptions and devices in sculpturing which, on the stones of their dungeon, the poor prisoners whiled away their weary hours, and wrote to posterity "with an iron pen on the rock." Many of these inscriptions and devices, as our readers know, were only recently discovered, during the restoration of the Beauchamp Tower, under Mr. Salvin's superintendence. In thirty-one lithographic plates, this tower and these numerous inscriptions and devices are represented; and to each device is appended a brief record of the author, collected from state papers, and other sources. The work, which is in quarto, also contains a short historical sketch of the building itself, and various lithographic sketches of it, including one of the interior of the state prison-room, such as we ourselves gave in this journal. The possession of so complete a record as this cannot but enhance the interest with which visitors will inspect the tower.

The Poultry Book. By the Rev. W. WINGFIELD and G. W. JOHNSON. Orr and Co. Paternoster-row. 1853. Parts VI. and VII.

THESE are the concluding parts of this highly-illustrated work, of which we have already spoken. The illustrations are done by the chromatic process, from coloured representations of the most celebrated prize birds, drawn from life by Mr. Harrison Weir, and printed in colours under his superintendence. They constitute not the least important feature in the work.

Miscellanea.

BRICK, TILE, AND POTTERY MANUFACTURE FROM THE MUD OF THE EXE.—Our readers may recollect a proposal in our columns to put the clay deposits of the river Exe (and, indeed, of other rivers as well) to use. In this view the discoverer or suggester, Mr. Phillips, of Honiton's Clist, is said to have been confirmed by the opinions of manufacturers, the agents for the Land-draining Company having gone so far as to say that, had they previously known of the discovery, they would have established themselves in the neighbourhood of the deposits at Topsham. A committee of gentlemen also is said to have ascertained the correctness of the opinion formed of them. Upwards of 200,000 bricks were manufactured; and two casks of deposit were forwarded to Mr. Henry Clayton, to test it in the strictest manner. Mr. Clayton's reply is said to have been satisfactory, and the committee have now proposed the formation of a company.

ISLINGTON INFANT POOR ESTABLISHMENT.—Having waited patiently ever since last May to know the decision of the committee on the drawings submitted in competition for the above-named works, and after many fruitless attempts to gain any satisfactory information, and not as yet having been able so to do, I have taken the liberty to address you, to ask if you have any further information than that we last saw in print. It seems strange that a committee should take seven months to decide on a proper set of drawings out of the number that were sent in.

ONE OF THE COMPETITORS.

*** In reply to inquiries, we learn that the building committee have not yet come to a decision.

The Turner Gallery.—We have read of a conclave of grave grimalkins appointed by certain dissatisfied little mice, to deal justice amongst them in the matter of a junk of cheese left amongst them as a legacy. The result we need not enlarge on. It is to be hoped that the Turner Gallery that is to be, will be more likely than the cheese to survive the "law and justice" that are hard at work upon it. *In causâ* Trimmer *v.* Danby,—Mr. Swanston, Mr. Chandless, Mr. Follett, Mr. Hallett, Mr. W. Morris, Mr. Wickens, and Mr. W. H. Terrell, all appeared for "parties" interested, at a hearing on the 25th ult. before Vice-chancellor Sir R. T. Kindersley, in respect to the pictures, which, pending this suit, are in the custody of Mrs. Hannah Danby. Shortly before the long vacation, the question of their preservation was discussed by the gentlemen of the long robe; it being feared that from damp and otherwise they would suffer before their destination in the suit could be determined. This question was referred to Mr. Hardwick, Sir Charles Eastlake, and Mr. C. Stanfield, who reported that many of the pictures were damaged from causes existing previously to Mr. Turner's decease; that it would be advisable to keep them free from damp: and that if they could not be properly attended to where they were, they ought to be removed elsewhere. This (his Honour observed) might have been before predicated, and in consequence he had written to them; and their reply was, that, considering the difficulty of finding a fit place for them, and in consequence of the serious illness of Mrs. Danby, they should be placed under the care of some respectable man in the house. The matter, he conceived, had better be considered by the counsel. These gentlemen agreed to consult together on the subject, and here the matter in the mean time rests; but we fear that the "destination" of the pictures is much more likely to be adversely affected by the "otherwise" than by the "damp," and that they are but too likely to meet with the fate of the celebrated *oyster;* in which case, all that will reach the "Gallery" may be the frames.

Secret Transmission by Telegraph.—Occasionally for some years we have heard of modes of secret transmission of messages by electric telegraph, but we are not aware that any of those recorded in our columns have ever been matured or brought into general practice. The *Official Venice Gazette* states that the Olympic Academy of Vicenza, having carefully examined the "discovery" made by their fellow-citizen Tremeschini (mentioned about six months ago) of electric telegraphy by secret transmission, has publicly declared it to be a most successful invention. The commission appointed to test its efficacy was composed of the councillor-delegate of the podesta, the superior commissary, and the academic council. The first experiment consisted in sending and receiving a despatch in the common way, without secrecy. In the second experiment, a despatch was sent secretly, and the answer received in the same manner, by the aid of the new apparatus. In the third, a despatch was sent openly, and the answer received secretly, to show that the secret apparatus might be used or suspended at will. The results of the inquiry are said to show—1st, That the apparatus of Tremeschini may be applied to Morse's telegraph; 2nd, That when the despatch is sent secretly, it can only be received so, any fraud in that respect being subject to immediate detection; 3rd, That secrecy may be suspended or applied at pleasure. This rather obscure account of it seems to savour a little of an *old* mode by means of invisible marks or writing, afterwards brought out by secret chemical re-agents.

Railways in the North: Inverness and Nairn.—There is still a sad want of railway communication in the north of Scotland. Nevertheless, our canny north-countrymen are making sure though somewhat slow progress. Having been bit in the rabid railway mania, they have gone to the other extreme, and leave promising speculations unappropriated. From Aberdeen to Huntly, the main eastern line is now on the way, and another link of the main chain, which will have the double advantage of constituting a portion of the more western route by Perth, as well as of that by way of Aberdeen, has been projected. This is a short line of 15¼ miles, from Inverness to Nairn, which will run on a dead level all the way, and with scarcely a brook to cross. The landed proprietors are all of course favourable to the laying down of such a line, and Mr. Brassey, it appears, in conjunction with Mr. Falshaw, has not only offered to contract for the whole at little more than 4,000*l.* a mile for a single line (the rate hitherto of cost on the Scottish lines having averaged some 30,000*l.* a mile,—an immense difference), but has also agreed to take 20,000*l.* of the payment in stock, a pretty sure token that this is one of those lines which are destined to form a portion of the established railway route of the country. We hope, ere very long, to be able to ride by rail from the Land's-end to John o'Groat's House.

The New Cemetery at Finchley for St. Pancras.—The foundation stone of the church of the first extramural cemetery for the metropolis under the new state of things was laid on 24th ult. by the vicar of St. Pancras; and the foundation stone of a Dissenting chapel for the same cemetery will be laid by a Dissenting clergyman, to be appointed by the general body of Dissenting parishioners, in a week or two. The cemetery comprises about 86 acres, heretofore known as the Horseshoe Farm, and is said to be a fine spot, full of gentle undulations, and will be appropriately laid out and planted. The authorities of St. Pancras Cemetery, under the new Interment Acts, have entered into contracts for the erection of both the church and the chapel, which latter will be of equally elegant, though appropriate style. The whole of the buildings, which are from designs furnished by Messrs. Barnett and Birch, architects, will be in the Decorated Gothic style, the Episcopal Chapel (or Church) surmounted by a tower and spire, the whole height being about 100 feet. The Dissenting chapel is a hexagonal building, with an open stone lantern at the top. It is intended that both church and chapel, and a part of the ground, having been consecrated, shall be opened for the purposes of interment in the month of June next. The Vicar, in his address on laying the stone, remarked that one hundred years ago, or little more, St. Pancras was a rural parish. Its entire population at that time did not exceed the average number of the present inmates of the parochial workhouse, about 1,200: it now reaches, at least, 175,000, and is believed to be increasing at the rate of 5,000 annually. The number of deaths registered within the parish during the last year amounted to 3,826; the number of interments in the parochial burying ground 1,230, or nearly one-third, and about the same number must have taken place in certain grounds pertaining to other parishes within the limits of St. Pancras, together with Kensal-green and Highgate Cemeteries. There are six or seven burial grounds in St. Pancras, parochial or nonconforming, from which no such return is made: when, therefore, all these grounds shall be closed, for which, in almost every instance, an order in council has been already issued, it can hardly be reckoned that fewer than 2,000 bodies will be annually deposited in the parochial cemetery.

The Northern Strike and Turn-out.—This most lamentable misunderstanding is not yet at an end. A memorial, adopted at a general meeting of delegates, has been transmitted to Lord Palmerston. The document commences by an acknowledgment that nothing can be more detrimental to the manufacturing and commercial interests than the anxiety, agitation, and confusion which pervade their districts, as they destroy that harmony and equilibrium so necessary for the peaceful progress and development of skill and ingenuity; and that a serious responsibility attaches to those who, by a disregard of reason and justice, have brought about this state of things. At great length it recapitulates the views of the dispute which the operatives have always put forth, commencing with the reduction of wages in 1847, and charging the responsibility of the dispute in a very large measure upon the conduct of the masters, many of whom the memorialists complain had treated their people with contempt and insult. The address then hints at the possibility of disturbance of the peace of the country, and concludes by saying, "We submit, for your consideration, whether your lordship can adopt any measures calculated to lead to an arrangement. We feel that at present the responsibility does not rest with us. If we have been unfortunate and called meetings, and formed organisations, who set us the example? If we have appealed to public opinion, and enlisted its sympathy, who showed us the value of it, when it could be used for their own peculiar purposes? If we have collected amongst ourselves some few hundred pounds in a week, who used to give their thousands? If we were so foolish as to believe trade was good, who told us so? Or if we wished to enjoy its blessings, who told us that we were certain to participate in them? Why, my lord, the very men who are now punishing us for following their example, and placing credit in their honour and their word."

Drainage of Ramsey, Hunts.—On Monday last tenders were delivered for the proposed improvements in the drainage of the town of Ramsey; Mr. George Allen, architect. They were as under, viz.:—

Stredder (Kensington)	£4,198	0	0
Bennett and Son (Whittlesey)	2,998	0	0
Wilkinson and Co. (Grantham)	2,611	5	6
Bateman (Ramsey)	2,490	0	0
Booth and Lunn (Boston)	2,365	10	0
Wright and Co. (Alfreton)	2,140	0	0
Coker and Oakes (Ware)	2,095	10	0
Garrett (Peterborough)	1,950	0	0

It is proposed to commence the works immediately, and thus insure to the town a thorough and effectual drainage.

Macclesfield Health Report.—At the end of their first year of office, the Local Board of Health and Improvement Committee at Macclesfield have issued their report, which does them great credit, and affords an excellent example of the immense amount of good which may be done, with hearty goodwill and activity, though with comparatively small means. The income of the board amounts to little more than 4,000*l.* derived from three rates of 6d. each in the pound, and with this they have already formed and repaired sewers and drains in twelve streets, widened streets in seven different instances, and increased the lighting of them, macadamized roads, removed various nuisances, whitewashed numerous cottages, &c. and regulated all the lodging-houses in the town—itself an Augean labour on a small scale, which, so far as it extends, seems to have equalled the horrors of St. Giles's, or any other of the blackest spots about London. The Board have also exerted their power over house-owners by rejecting plans for twenty-two houses, and approving eighty-seven, laid out apparently under a salutary sense of the veto of the Board. Various other onerous duties have been performed, and the report under notice presents suggestions which it would be well such local Boards as that at Reading, and not a few others we know of, would study.

The Hydraulic Ram.—My attention has been called to an article in your paper of October 1st, on an improvement in the hydraulic ram made by an American, whereby it can be made to throw up different water to that which works the machine. Now, I am not so incredulous a person as not to know that the ingenuity of man may perform wonders in hydraulics, as well as in other sciences; but, having tried experiments with the ram, I may say, when I used vulcanized India-rubber, which I suppose is the article used for the flexible diaphragm mentioned, that though it worked very well for a few hours, on taking the ram to pieces, I found the flexible material all in shreds, and useless. The continual blow of the ram is so great, that when I have to raise the water 100 feet high (which is by no means high for a ram,—I have raised water 300 feet high with it), nothing but strong iron, well proved, and gun-metal, will stand the test; consequently I should never think of using so fragile a substance as leather, rubber, &c.—F. R.

The Stourbridge School of Design.—The anniversary of this school was held on Tuesday in last week. Lord Ward presided, and there was a numerous attendance. A brief, but pertinent address, was given by Mr. J. H. H. Foley, M.P. the patron of the school, who said that, taking into consideration the circumstances connected with the establishment, the exhibition he thought very satisfactory. No one, he observed, could deny that Stourbridge was importantly situated in connection with the trade around it, and more particularly with the glass trade; and it was now also generally admitted that there was a deficiency in England, as compared with other countries, in elegance and correctness of form and shape, which add so much to the beauty and attraction in the productions of other countries; and that the cause of such deficiency arose from the greater facilities given by them for study and education through the means of schools of design. It was, therefore, a wise and prudent act of the Government of this country to endeavour to remedy the defect, which was becoming a subject of national loss and disgrace. This school had only been open for a year, and the exhibition reflected great credit upon the pupils; and, considering their number and the time they had been taught, the drawings would bear a comparison with other schools, and particularly the drawings of the young ladies of the town and neighbourhood. Mr. Foley stated that it was his intention to propose to add all the 100 boys of the Oldswinford Hospital School, after Christmas, to the number of pupils at the School of Design.

The Accident, Walham-green.—The cause of the house falling here appears to be "unequal pressure at the angle, on a sandy foundation saturated with water." I perfectly agree with you in the remarks of the *Builder*, No. 564. I have done all in my power to improve the *morality* of speculative builders, and I have also been to the ground-landlords, who, I have found, seem little inclined to interfere.—A District Surveyor.

Falling Houses: Blame to whom Blame is due.—While the scamping speculating builders are to blame, they are only so in the *second degree:* the *purchasers* of houses are most to blame: they will not give anything like a fair value for house property: consequently, to meet the scandalous offers of capitalists, the builder is obliged to have recourse to scamping or the Bankruptcy Court. In one sense it is no matter how badly houses are built: they are then too good for the prices offered, and which the necessities of the builder but too frequently compel him to accept. For two houses which cost me 1,000*l.* a capitalist had the audacity to offer me 700*l.* and thought it a "very good price!"—A. B. C.

A LABOUR PARLIAMENT.—The leaders of the working classes in the Manchester district, persuaded of the futility of all efforts by isolated bodies of working men to maintain what they consider a just standard of wages, and to emancipate labour from capital, have set on foot, in Manchester, as a centre, a movement to bring about a national organisation of the working classes, to be guided by one directing body, whose object shall be to centralise and confederate their strength. This "new power in the state," as they call it, is not to supersede the trades' unions and combinations, but rather to be representative of them. It is to be composed of delegates elected at public meetings in the various towns, and its comprehensive duties are set forth in resolutions passed at a meeting already held to introduce the project, at the People's Institute, in Heyrod-street, Manchester. The meeting was presided over by Mr. Cropper Clarke, and a committee of twelve working men, with power to add to their number, was appointed to carry out the resolutions. The meeting was addressed at some length by Mr. James Williams, and also by Mr. Ernest Jones, and their chief argument was, that the working classes were entitled to, and will now demand, a share in profits; that they have never yet had their share of profit, because profit is alone that which remains after the payment of all necessary expenses, whereas the wages of the working man have hitherto been no more than barely sufficient to supply him with food, clothing, and the necessaries of life. "As this remuneration has only been enough to keep the human machine in working order," urged the speakers, "it has no more been profit than has the amount of money expended in supplying fuel for the steam-engines been profit to the manufacturer."

THE WORCESTER SCHOOL OF DESIGN.—The second annual meeting of the friends and subscribers to this institution was held on Monday in last week, at the Music-hall, Worcester, when about 800 persons were present. Lord Ward took the chair. The report set forth, that during the past year the institution had continued to make encouraging progress. No fewer than 278 students had received instruction: 229 was the largest number that had attended in any one month; and 192 was the average monthly attendance; being an increase over the first year of forty students in regular attendance. The revenue for the year, including the Government grant of 150*l.* was 720*l.* 6s. 7d. and the expenditure 570*l.* 2s. 10d.; balance, 150*l.* 3s. 9d. Mr. Cole was present, and addressed the meeting. Amongst other probable causes of the success of the Worcester school, he remarked, that he had noticed that in cathedral towns, and other places where a love of art had been engendered by the constant beholding of the works of the middle ages, these schools were generally flourishing. An old grey cathedral, with its beautiful remains of antiquity, had no doubt a very humanizing tendency, and could not be too highly appreciated. It had been a subject of discussion as to the propriety of admitting females to the school. There was hardly a more important object contemplated by the Government Department of Art than that of the education of females. By a kind of barbarity and selfishness among the lords of creation, women had been excluded from a source of profitable employment which ought to have been and might have been most appropriately assigned to them. He alluded to the selfish jealousy which pervaded the Staffordshire Potteries against the introduction of women into the porcelain trade. The opening these schools to all classes willing to receive art-education was advocated. It was not merely the education of the artisan that was required;—the masses of the people must be educated likewise, for thus only were the improved productions of taste and *vertu* likely to be appreciated. The purchaser or consumer stood in need of education as much as the producer; and on this point he read some quotations from the works of Mr. Ruskin. Mr. Redgrave also addressed the meeting.

THE CLERK OF WORKS AT GENERAL POST-OFFICE.—We have to mention the death of Mr. John Fortune, who was clerk of the works at the General Post-office, St. Martin's-le-Grand, at the period of the erection of the present building, and remained there in the same capacity up to the time of his death, acting under Mr. Sydney Smirke. The appointment is with the Commissioners of Woods.

STEAM-HAMMERS.—Messrs. Balmforth, of Clayton, Lancaster, ironmasters, have patented some improvements relating to steam tilt-hammers, and which consist mainly in the employment of an oscillating steam-cylinder, having its piston-rod connected direct to the helve of the hammer-head, and beneath the helve in such a position as to allow clear access to the hammer from all sides. The axes on which the hammer tilts are furnished with screw bearings, to enable one side to be raised more than the other, and thus allow of irregularly-formed masses being forged. A modification of the machine enables it to be used for riveting.

THE ROYAL SOCIETY.—The anniversary of this society was held on the 30th ult. the Earl of Rosse, president, in the chair. His lordship delivered an able address; after which the Copley medal was presented to M. Dove, of Berlin, for his work on the distribution of heat over the surface of the earth; and the Royal medal to Mr. Charles Darwin, the naturalist, for his works on natural history and geology. After the meeting, the Fellows of the Society and their friends dined together at the Freemasons' Tavern, the Earl of Rosse, president, in the chair, when the Lord Chief Baron, Mr. Bell, and others, made pleasant speeches. Mr. Tite is one of the new members of council.

THE TIMBER TRADE IN VAN DIEMEN'S LAND has so rapidly increased, that orders have been sent to England for as many as fifty saw-mills. "The average of the weekly earnings of diggers," says the local *Colonist*, "bears no comparison with an equal number of our Huon sawyers. This is a well-authenticated fact."

RISING TALENT.—The young son of Mr. Peake, of Staffordshire, whose name must be known to most of our readers, exhibited a very creditable copy of "Christ restoring Sight to the Blind," by Caracci, amongst the studies made in the School of Painting, at the British Institution, Pall Mall.

WANT OF DWELLINGS FOR THE WORKING CLASSES.—Dr. Gavin, in one of his reports to the Central Board of Health, says, "In Dundee, as in every place I have officially visited, Newcastle, Gateshead, Walker, Howden, Felling, Houghton, Blyth, Cowpen, Chester-le-Street, Hexham, &c. the greatest want is the want of dwellings. It is difficult to believe the extent to which this want prevails in all quarters. While every branch of remunerative industry seems to be most assiduously pursued, the building of houses for the increased population, brought together by the various industrial pursuits, has been almost, and in many instances, entirely overlooked. Dundee forms a striking example of this. While the houses of the gentry have increased, the increased working population have been crammed into nearly the same number of old and badly-constructed houses as existed before the increase of the population. As a rule, these houses may be said to be undrained, destitute of any accommodation, except that public sort which I have described, without places for the reception of domestic refuse, with unpaved yards, or bouldered pavements in the entries, pends, and closes, and with the surfaces of these yards and of the pathways loaded with the refuse of life, which is frequently moved to and fro by public traffic, but rarely moved away by the scavenger." There is a stir throughout the whole country now in favour of thorough sewerage and drainage, and pure water supply, and we hope that our past and future endeavours to excite a further movement in favour of a complete revolution in the dwellings of the poor and the industrious will be crowned with the like success, of which there are already promising signs. Here builders themselves have a fair field, and a fine one, for profitable speculation, would they but give it a proper trial.

TENDERS

For building twenty cottages at Bromley, for Mr. John Fisher: Mr. A. E. Taylor, surveyor:—

Elston	£3,950	0	0
Richardson	3,950	0	0
Hack and Son	3,860	0	0
Haynes	3,850	0	0
Richelieu and Niblow	3,800	0	0
Blackburn	3,789	0	0
Watts	3,257	0	0

TO CORRESPONDENTS.

"T. L." "E. R." "S. S. T." "O. H." "F. and Son." "C. W." "J. E. G." "F. L." "B and C." "J. T." "A Citizen Subscriber." "Mr. S." "W. B. M. L." (a painted window unquestionably. A reply to the other inquiry would need more words than we can give at the moment). "Messrs. C." "W. L." "W. M. B." "W. N. P." "J. H." "O. H. O." "H. S." "R. R." "H. H." "R. L. S." "A Builder.'

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO ARCHITECTS, ENGINEERS, SURVEYORS, AND BUILDERS' CLERKS.

THE PROVIDENT SOCIETY of BUILDERS' CLERKS will hold the next GENERAL MEETING at their Offices, the London Mechanics' Institution, Southampton-buildings, Chancery-lane, on WEDNESDAY EVENING, DECEMBER 7, 1853, at EIGHT o'clock. The attendance of clerks is earnestly desired. Rules may be had by application (post-paid) as above, to

ALFRED COLVEN, Hon. Sec.

HOTEL at BIRMINGHAM.—The Directors of the London and North-Western Railway Company invite proposals from persons desirous of taking the Hotel at the New-street Station, Birmingham. The plans, as also an authority to inspect the building, &c. may be obtained on application to the Secretary, at Euston Station, London; or to Mr. HENRY MORGAN, New-street Station, Birmingham.—By order,

CHARLES E. STEWART, Secretary.

Euston Station, 29th November, 1853.

MANAGING CLERK WANTED, for the Royal Investment Society, 23, Pall-mall, London. No one need apply who is not familiar with the practical working of building and freehold land societies, and skilled at correspondence. Commencing salary 100*l.* a year.—Applications to be made, by letter only, to WILLIAM BRIDGES, Secretary.

MANAGER WANTED.—A Person competent to take the entire Superintendence of a Timber Business and Preparing Works. He must be a thorough man of business, understand the management of men and accounts, and of good character. The salary will be liberal, and increased according to the energy displayed. A house will be found him, as he will be required to live upon the premises. Security will be required.—Address, by letter only, with real name and reference, to R. S. at Mr. Hills, Stationer, corner of Acton-street, Gray's-inn-road.

MANAGER of a GENERAL ENGINE-WORKS and FOUNDRY.—WANTED, a first-rate man of business, quite competent to undertake the above situation, to whom a good salary will be given. His testimonials as to ability and character must be undeniable, and his age under forty.—Apply by letter, to B. at Katesgrove Iron-works, Reading.

CLERK of WORKS WANTED, well acquainted with Gothic Architecture.—Apply by letter, post-paid, to Mr. G. W. HAINES, 28, Moorgate-street.

SAW-MILL FOREMAN WANTED.—Address, stating qualification and wages expected to P. ST. QUINTIN, 2, Charlotte-row, Mansion-house.

TO BUILDERS' FOREMEN.

WANTED, in the Country, a GENERAL FOREMAN; a carpenter and joiner by trade, and one who has been used to a jobbing business would be preferred.—Address, A. B. Post-office, Uxbridge, stating age, salary, and references.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a Carpenter and Joiner (a young man), to take charge of a job. Can make finished and working drawings, take out quantities, and also the usual routine of a Builder's Office.—Address to J. J. A. P. North Star Coffee-house, Gray's-inn-road.

TO ENGINEERING AND ARCHITECTURAL DRAUGHTSMEN.

WANTED, a gentlemanly young MAN in the above capacity. Salary, 10*l.* a month.—Address, ALPHA, care of Mr. Purton, 13, Piccadilly.

WANTED, a handy SMITH, capable of erecting HOT-WATER WORKS. A constant job will be given to a steady man in the above line. No objection to a man from the country.—Apply to ALFRED MAY, No. 80, Devonshire-street, Queen-square, London.

WANTED, in a Builder's Office, a Middle-aged Man as CLERK and good accountant; can make good working drawings, &c.—Apply by letter to W. B. Office of "The Builder," stating salary required, and where last employed.

WANTED, in an Architect's Office in Westminster, an OFFICE LAD, of good character, who can write and spell well. Wages, 5*s.* a week.—Apply in own handwriting, giving reference and stating age, to Mr. Saunders, 2, Poet's-corner, Westminster.

TO BUILDERS' FOREMEN.

WANTED, by a Builder in London, an active, intelligent Man as YARD FOREMAN. He will be required to superintend timber framing and rough carpenters' work.—Address, stating age, particulars, where last employed, and wages, to M. A. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, who thoroughly understands his business, a SITUATION as PLUMBER. Can fill up his time with painting, &c. Reference from his present employer. No objection to the country.—Address, J. BLACK, 3, Crauford-place, Coldbath-square.

WANTED, a SITUATION as NIGHT-WATCHMAN, by a respectable Person, with eleven years' character. No objection to the care of a couple of fire-engines.—Apply to W. H. City Saw-mills, 21, James-street, City-road.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a clever and experienced Draughtsman, aged 20, accustomed to fair and working drawings, and the general routine of office work.—Address, Y. Z. Mr. Jackson's, Stationer, near the Town Hall, Borough.

WANTED, by a Young Man, a Situation as CLERK, a good arithmetician, well versed in accounts, and thoroughly understands book-keeping. Unexceptionable references can be given, and security if required. No objection to the country.—Address, Z. D. Office of "The Builder."

TO ENGINEERS.

WANTED, a SITUATION, by a Young Man, who has served his time to the practical part of his business and mechanical drawing; he has just completed an engagement in an engineer's office, can make finished and working drawings, would have no objections to make himself useful at the practical part of his business if required. Wages not so much an object as a permanent place. Unquestionable reference given.—Address, A. B. Office of "The Builder."

TO BUILDERS, &c.

WANTED, by the Advertiser, who has had some experience as Time-keeper to a Builder, EMPLOYMENT in the same line, or any other in which he could make himself useful. Can be well recommended. No objection to town or country.—Address, T. W. 42, Orange-street, Bethnal-green-road

TO GAS ENGINEERS PLUMBERS, AND BUILDERS.

WANTED, a SITUATION as PLUMBER, GASFITTER, or to take the Management of small Gasworks.—Address, W. J. O. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT in either of the above offices, by a Gentleman who has been accustomed to setting out working and detail drawings, specifications, &c. and who also understands land surveying and levelling.—Address W. W. Mrs. Norton's Newspaper-office, 22, Cumberland-market, Regent's-park.

WANTED, by the Advertiser, an ENGAGEMENT in an Architect's, Surveyor's or Builder's Office. He is well acquainted with drawing, and the general routine of office work. Testimonials and references the most satisfactory can be given.—Address, E. J. H. at Mr. Ogg's, Post-office, Gray's-inn-lane.

TO ARCHITECTS, ENGINEERS, &c.

A GENTLEMAN, who is thoroughly acquainted with every branch of drawing required in the above professions, and is himself in practice in one of them, and well versed in the higher mathematics, is willing to FILL up HIS TIME and that of his ASSISTANTS in preparing, at his own offices, detail, perspective, or other drawings; copying specifications and quantities, making mathematical calculations, &c.—Address, F. H. K. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN Architectural Assistant, of first-rate ability as a draughtsman and designer, and having a thorough practical knowledge of building in all its branches, desires a SITUATION as ASSISTANT, or to take the MANAGEMENT of an OFFICE. Is well acquainted with surveying and levelling.—Address, X. X, 1 Villa-row, Walworth-common.

TO ARCHITECTS AND BUILDERS.

AN Assistant, as Clerk of the Works, or otherwise, is open to an ENGAGEMENT. He has had six years' practical experience, and has been accustomed to preparing plans, specifications, measurements, &c.—Address, S. W. M. T. Post-office, Uxbridge, Middlesex.

TO ARCHITECTS.

A DRAUGHTSMAN is desirous of a RE-ENGAGEMENT in a London office. Understands perspective, the getting out of working and finished drawings, &c. and the general routine of an office.—Address, A. B. No. 9, Eliza-street South, Pimlico.

TO ARCHITECTS.

AN ARCHITECT'S DRAUGHTSMAN, accustomed to making fair, working, and perspective drawings, is open to a RE-ENGAGEMENT.—Address, C. B. Office of "The Builder."

TO ARCHITECTS, &c.

A DESIGNER, DRAUGHTSMAN, and good Artistic COLOURIST, offers his services in the preparation of Perspective Views, in tinting Backgrounds, and the introduction of Landscape. Also in general Drawing and Lithography. Terms moderate.—Specimens of ability can be seen by addressing A. B. 29, Denbigh-place, Belgravia.

A YOUNG MAN, aged 20, wishes for EMPLOYMENT as an IMPROVER, in the Carpentering or Joining trade.—Address, C. B. 23, Kensington-place, Westminster.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

AN Architectural Draughtsman wishes an ENGAGEMENT, where he would have an opportunity of furthering his knowledge. A moderate salary only required.—Address, M. S. 14, Bryanston-street, Portman-square.

TO ARCHITECTS AND SURVEYORS.

A PERSON, of thirteen years' experience, is in want of a SITUATION. He is competent in every respect to fulfil the duties required from him in the most responsible position. He has an accurate knowledge of the value of all real and personal property, and would exert himself to render every assistance most conducive to the interests of his employer.—Address, in the first instance, to T. P. Post-office, Wolverhampton.

AS WORKING FOREMAN of MASONS. A good practical Mason is desirous of forming an ENGAGEMENT with a Mason or Builder. Can make working drawings, set out work, carve and cut letters, and is thoroughly acquainted with public and jobbing work. Can have good reference and testimonials.—Direct, J. F. Office of "The Builder."

PLASTERING.—A London Plasterer, with a few good and steady hands, just completing a job, is open to an ENGAGEMENT.—Address, S. B. Plasterer, at Mr. Cock's, Mortimer, Berks.

THE Advertiser is desirous of an Engagement in the Office of an ARCHITECT. Has a knowledge of architecture in general, but especially Ecclesiastical; understands perspective, and can make finished and working drawings. Has been lately in the employ of an eminent building firm, of which he can obtain good recommendation.—Address, A. W. at Mrs. Mede's, 23, Church-street, Camberwell.

NOTICE.—All Persons having any Claim or Claims against the estate of the late Mr. JAMES WELLS, of Surrey House, Coleman-street, Camberwell, Builder, who died on the 26th day of October last, are hereby requested to forward particulars thereof forthwith to Mr. ANDREW KNOX, of 8, Clarence-place, Camberwell-road, Slater; or to Mr. WILLIAM WELLS, of the Crescent, Southampton-street, Camberwell, Builder, the executors, in order that the same may be examined and discharged.
Dated this 26th day of November, 1853.

PARTNERSHIP.—Wanted, a PARTNER, in a well-established and increasing CABINET and UPHOLSTERY BUSINESS, of the highest respectability and connections, in the largest town in the Midland Counties. The capital can readily be turned twice a year. A party of business habits, having about 2,000*l.* at his command, would find it in every way a good opportunity of investment.—Apply by letter only, addressed T. H. T. William Smee and Son, Wholesale Cabinet-makers, 6, Finsbury Pavement, London.

PARTNERSHIP.—The Advertiser, a Builder, is desirous to meet with a Person with about 200*l.* to assist to finish some property situate on the Bishop of London's Estate, and to take part in the business generally.—Address J. S. Office of "The Builder."

SURVEYING, Architecture, Engineering, &c. Levelling, Draining, Draughting, Mapping, Measuring, and Valuing of Land, Timber, Buildings, &c. TAUGHT PRACTICALLY, in a short course of lessons, by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Architects, Surveyors, &c. Proficiency guaranteed. Terms very moderate. For prospectuses, &c. apply at the Offices, 24, Guildford-street, Russell-square.
"An excellent establishment for surveying, architecture, civil engineering, &c."—*Magazine of Science.*

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

MR. F. G. SMYRK, begs most respectfully to inform the above, that he is a purchaser of old mansions and buildings of every description, to pull down (within 100 miles of London), for READY CASH.—All communications addressed to his Offices, 21, York-road, Old Kent-road, Surrey, will meet with prompt attention.

HOW to FURNISH a HOUSE. With numerous Illustrations. Second Thousand. price 2*s.*
London: GROOMBRIDGE and SONS. Sold by all Booksellers.

PATENT LAW AMENDMENT ACTS, 1852.—COPIES of SPECIFICATIONS under this Act, printed and published by authority of the Commissioners, are now in course of publication by EYRE and SPOTTISWOODE, her Majesty's Printers, East Harding-street, Fetter-lane, London. The prices are printed on the wrappers.
The First Number of a WEEKLY CIRCULAR relating to Patents will be published by the authority of the Commissioners, in the first week of January, 1854.
The Act (16 & 17 Vict. c. 115, s. 4) directs that printed copies of specifications, duly certified and sealed in the Patent Office, shall be received in evidence in all cour s within the United Kingdom of Great Britain and Ireland. The office charge for certifying and sealing is one shilling, and where the original drawings are coloured, the evidence copy will be coloured at the cost price.
Great Seal Patent Office, November, 1853.

PATENT LAW AMENDMENT ACT, 1852.—REAPING MACHINES.—The entire SERIES of SPECIFICATIONS and DRAWINGS on this subject, up to JANUARY, 1853, together with an Appendix, prepared by B. WOODCROFT, of the Patent Office, and published under the sanction of the Commissioners, is now ready, and may be had at cost price, of EYRE and SPOTTISWOODE, her Majesty's Printers, East Harding-street, Fetter-lane, London.

On the 10th of December will be published, price 10s. each, strongly bound in cloth,

VOLUME I. OF THE GEOGRAPHICAL DIVISION, AND
VOLUME I. OF THE NATURAL HISTORY DIVISION
OF

THE ENGLISH CYCLOPÆDIA.

A New Dictionary of Universal Knowledge.

ILLUSTRATED WITH MORE THAN FIVE THOUSAND WOOD ENGRAVINGS.

CONDUCTED BY MR. CHARLES KNIGHT.

*** A Number of the CYCLOPÆDIA is published every Saturday, price 6*d.*; one week a number of GEOGRAPHY, the next a Number of NATURAL HISTORY; and a Part, price 2*s.* on the last day of each month.

LONDON: PUBLISHED BY BRADBURY & EVANS, 11, BOUVERIE STREET.

On Thursday, the 5th of January, 1854, will be published, price Twopence, the First of a Series of Works, entitled

ORR'S CIRCLE OF THE SCIENCES;

CONSISTING OF

SHORT TREATISES ON THE FUNDAMENTAL PRINCIPLES AND CHARACTERISTIC FEATURES OF SCIENTIFIC AND PRACTICAL PURSUITS;

WITH NUMEROUS ILLUSTRATIVE ENGRAVINGS ON WOOD.

Messrs. W. S. ORR and CO. have to announce the early publication, in Weekly Numbers, of a series of short Treatises, which will include every useful and attractive section of human acquirement, whether scientific, practical, or descriptive; and which will be issued at a price so moderate as to place them within the reach of every member of the community.
Although every subject will be treated in a philosophic spirit, yet it will not be forgotten that the work is designed for popular use; and therefore the Editor and the various Contributors will endeavour to clothe the whole Series, and the Scientific Treatises especially, in simple language, so as to render them easy introductions to practical studies.
To carry the design into effect, assistance has been obtained from eminent scientific men; and the Editor has the satisfaction of announcing among the Contributors to the first year's volumes the names of Professor OWEN, of the Royal College of Surgeons; Sir WILLIAM JARDINE, Bart.; Professors ANSTED and TENNANT, of King's College; the Rev. WALTER MITCHELL, of St. Bartholomew's Hospital; and Professor YOUNG, Examiner in Mathematics at the University of London. Every confidence, therefore, may be placed in the publication, as regards its soundness of principle, its extent of information, and its accordance with the results of the latest researches and discoveries.
During the first year either three or four volumes will be completed. The respective subjects will not be issued in consecutive weeks; but the paging of each series will be continuous; so that the whole, when collected at the end of the year, will form separate Volumes, with Title-pages, Prefaces, Tables of Contents, Indices—each Volume being a distinct work on NATURAL PHILOSOPHY, on the TWO GREAT DIVISIONS OF NATURAL HISTORY, and the MATHEMATICAL SCIENCES.
The "CIRCLE OF THE SCIENCES" will thus, by the aid of copious Analytical Indices, combine all the advantages of an Encyclopædia, as a work of reference, without the irksome repetition which alphabetical arrangements necessarily involve.

On the First of December an Introductory Treatise

"ON THE NATURE, CONNECTION, AND USES OF THE GREAT DEPARTMENTS OF HUMAN KNOWLEDGE,"

Was issued; and the Publication of the Work itself will commence in January, 1854.

"ORR'S CIRCLE OF THE SCIENCES" can be supplied by every Bookseller in the Kingdom; of whom a detailed Prospectus containing Specimen Page and List of Subjects, may be had.

LONDON: WM. S. ORR AND CO. AMEN CORNER, PATERNOSTER ROW.

KELLY'S PRACTICAL BUILDERS' PRICE BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8*s.* neatly bound.
London; published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.
Of whom may be had, New Editions, in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD; being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten Parts at 3*s.* or in boards, 30*s.*; containing upwards of 190 Steel Plates, and numerous Woodcut Diagrams.
2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the use of workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c; and a description of the various materials employed. Ten Parts at 3*s.* or in boards, 30*s.*; containing upwards of Ninety Steel Plates and numerous Woodcuts.
3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE: containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3*s.*; or in boards, 36*s.*
4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 3*s.*; or in boards, 39*s.*
5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts at 3*s.* or 33*s.* boards.
6. THE HOUSE DECORATOR and PAINTER'S GUIDE; containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3*s*: or in boards, 33*s*.
7. THE HOUSE PAINTER, or DECORATOR'S COMPANION; containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand-brush Graining and Marbling. Ten Parts, at 3*s.* or in boards, 33*s.*

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HEBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1835, of the Encyclopædia. The Inventions and Discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo. volumes, cloth, lettered, price 30*s.*

NEW PATENT LAW (15 & 16 Vict. c. 83), The CIRCULAR of INFORMATION, with full particulars as to the reduced expense and facility of protection for inventions for the United Kingdom or foreign countries, may be had (gratis) by applying personally, or by letter, pre-paid, to Mr. PRINCE, Patent Office, 4, Trafalgar-square, Charing-cross, London.

Now ready, price One Shilling.

THE NATIONAL MISCELLANY,
Vol. II. No. II. for December.

CONTENTS:—

1. Our National Gallery and its Prospects.
2. Wallachia and Moldavia.
3. The National Drama.
4. Kaiserswerth and the Protestant Deaconesses.
5. The Well of Glisson.
6. Proverbial Philosophy, or Old Saws with a New Edge.
7. The Interesting Pole, concluded.
8. Discovery of America in the Tenth Century.
9. Magazines.
10. Notices—Landmarks of History. Arnold's Poems.

Now ready.
Volume I. containing the First Six Numbers, in handsome cloth binding, gilt edges, price 7*s.*
At the Office, 14, Exeter-street, Strand, London.

TO BUILDERS AND ALL INTERESTED IN HOUSE PROPERTY.—New and important work, now ready, and to be had at all booksellers.

LANG'S HINTS ON HOUSES.
Quarto, bound, price 5*s.*
PUBLISHED BY
THOMAS H. REES, Aldine Chambers, Paternoster-row, London.

Sixth Thousand (revised), price ONE SHILLING.

THE RESULTS of the CENSUS of GREAT BRITAIN in 1851; with a Description of the Machinery and Processes employed to obtain the Returns; also an Appendix of Tables of Reference.
By EDWARD CHESHIRE,
Fellow of the Statistical Society, and one of the Secretaries of the Statistical Section of the British Association.
*** May be had through any Bookseller for 1*s.* or direct from Publisher for 18 stamps.
LONDON: JOHN W. PARKER & SONS, 445, WEST STRAND.

THE MOST REMARKABLE BUILDINGS AND STYLES OF ALL AGES AND COUNTRIES IN THE WORLD.
Now ready, with 1,000 beautiful illustrations on wood, one compact volume, 8vo.

THE HANDBOOK of ARCHITECTURE.
Being a concise and popular Account of the different Styles prevailing in all Ages and Countries of the World. With a description of the most Remarkable Buildings.
By JAMES FERGUSSON, Esq.
JOHN MURRAY, Albemarle-street.

Just published for 1854, price 4*s.* the forty-fourth edition of

SKYRING'S BUILDERS' PRICES, calculated from the Increased Price of Materials in the Building Line, and thoroughly corrected agreeably to the same: containing a Diary and Daily Journal, Abstract of the Building Act, and much new and useful information.
SIMPKIN and CO. Stationers'-court, London, and may be had of all Booksellers.

ISLE of WIGHT.—The "ILLUSTRATED PROPERTY ADVERTISER" of DECEMBER 1, price 1*s.* stamped, contains a descriptive account of this favourite locality, being the first of a series of LOCAL SKETCHES; also articles on a variety of subjects, with the property intelligence of the past month, reviews, lists of property wanted and for disposal, approaching sales, and various illustrations. The October number contains Cholera Map of London and Thirty-two Illustrations. Remitted for stamps from 63, New Bond-street; and all News-agents.

RECTORY ESTATE, EALING.—Valuable FREEHOLD BUILDING GROUND TO BE LET or SOLD in plots adjoining the old church. The estate abounds in gravel. The roads and drains are being made. Liberal advances will be made as the works progress.—For particulars, apply to GEORGE MORGAN, Esq. Architect, 5, Chancery-lane; or to Mr. FARQUHARSON, Uxbridge-road, Ealing.

BROCKLEY-HILL PARK ESTATE, FOREST-HILL.—TO BE LET, on Building Lease, or SOLD, several eligible lots of BUILDING LAND, commanding a most extensive prospect, rivalling that seen from the Crystal Palace. A site has been appropriated for a church on the summit of the hill, in the centre of a proposed ornamental garden of nearly 3 acres in extent. The roads, garden, and drains are being formed Advances will be made to responsible parties.—Apply to GEORGE MORGAN, Esq. Architect, 5, Chancery-lane.

FREEHOLD BUILDING LAND, to be SOLD or LET, opposite the Great Northern Station, corner of Maiden-lane and Edward-street, near King's-cross. It is the only unoccupied ground in the neighbourhood, and is admirably adapted for the erection of houses, stables, warehouses, or factories. —Apply to Messrs. C. and H. HYDE, Solicitors, 33, Ely-place, Holborn; or to Mr. T. M. NELSON, Architect, 3, Charles-street, St. James's-square.

FREEHOLD BUILDING GROUND TO BE LET, in the Green Lanes, near Woodgreen, Hornsey, at a moderate ground-rent. The roads and surface drainage are being made. Money will be advanced to respectable parties. A few excellent Building Lots, 48 feet frontage by 225 feet deep, TO BE SOLD, and part of the purchase-money may remain on mortgage.—Apply at the Offices of GEORGE MORGAN, Esq. 5, Chancery-lane.

BUILDING GROUND TO BE LET, near the City, situate in the Queen's-road, Dalston: term, 99 years. Ground-rents may be purchased down to a peppercorn.—For terms apply to Mr. HUGHES, Solicitor, 25, Old Jewry.—Building Ground also to be Let, situate in the Grove-road, Holloway, and in the high road, Turnham-green.—Apply at the Countinghouse on each estate.

TO BRICK-MAKING COMPANIES, POTTERIES, &c.

TO BE LET, CLAY-FIELDS of the Finest WHITE CLAY.—The beds are situated on the banks of the Beaulieu (tidal) river, on the estate of Exbury, and in the county of Southampton. The estate is on the shores of the Solent, and opposite Cowes. There are four wharfs on the property, with depth of water at high tide for vessels of large burthen. The beds all lie adjacent to the wharfs. The white brick known as the Southampton brick is made on the property, from the clay now advertised for letting.—Apply to Mr. WM. ROSS, Steward of the Estate, the Grange, Alicieford, Hants.

WOOLWICH.—Spacious Premises, well adapted for Manufacturing purposes, TO BE LET.

MESSRS. CHURCH and SON have received instructions to LET on LEASE, all those spacious and substantially modern-built Premises, known as the WOOLWICH BATHS and LECTURE-HALL, situate in Nelson-street, High-street, Woolwich, comprising a handsomely decorated Lecture-hall, capable of holding one thousand persons; eight anti-rooms and housekeeper's apartments; two assembly-rooms, two large swimming-baths, apartment fitted with thirteen private baths, two entrance-halls, engine and boiler-house, coal-store, and other convenient offices. On the premises is an excellent steam-engine, with pumping gear, an inexhaustible supply of pure spring water, hot and cold water-tanks, together with all the usual fittings and apparatus in connection with the baths, in good working order, which might be readily adapted for any description of machinery. The large superficial area of the above premises, and their proximity to the river and railway stations, peculiarly recommend them for manufacturing or other business purposes requiring space and facilities of land and water carriage. Four houses adjoining, and a valuable plot of building ground, 90 feet by 40 feet, with frontages in High-street and Nelson-street, will also be LET if required.—For cards to view, and full particulars, apply to Messrs. CHURCH and SON, Auctioneers and Surveyors, William street, Woolwich, where a plan of the property may be seen.

TO SCULPTORS, &c.

TO BE LET, in the Strand, within ten minutes' walk of the Royal Academy, a LARGE GALLERY on ground floor, lofty, dry, and extensive skylight, with back private entrance. Can be had for a term of years, or otherwise. Rent moderate.—Apply on the premises, 194, Strand.

TO BUILDERS.

AN eligible PLOT of GROUND TO BE LET, for Building a respectable class of Fourth-rate Cottages, the road made, and sewers in.—For particulars apply to Mr. A. C. BEAN, Architect, Bridge-road, Hammersmith.

LEA-BRIDGE.—WHARFS TO BE LET. This is the only spot unoccupied between Bow and Tottenham, and as the Trustees of the River Lea have just improved the navigation, widened all their locks, &c. these premises will be found most desirable: the site commands Hackney, Clapton, Tottenham, and the rapidly-increasing vicinity.—Particulars may be had of Mr. J. EDMESTON, at 5, Crown-court, Old Broad-street.

VALUABLE BUILDING GROUND to be LET or SOLD, adjoining a Railway Station in the county of Surrey. The Land is most favourably situate for Villa Residences, within an easy distance of the Crystal Palace, and has never yet been offered. Liberal arrangements will be made with respectable parties, this being well worth their attention as an investment of capital in Building, or in the creation of Ground-rents.—Apply to J. TRAIL, Esq. 4, Hare-court, Temple.

HIGHBURY NEW PARK.—FREEHOLD BUILDING GROUND TO BE LET, in this desirable locality, commanding extensive views. Money and bricks advanced, if required.—For particulars apply to Mr. C. HAMBRIDGE, Architect, 73, Coleman-street, City.

CAPITAL Manufacturing PREMISES, with or without an excellent Residence, situated in Clerkenwell, in the immediate vicinity of the extensive improvements making in that locality. TO BE LET upon LEASE. They are adapted for a Builder, Engineer, or any other business requiring roomy, substantial premises.—Particulars may be obtained of Mr. GARDINER, 17, Hatton-garden.

SYDENHAM-HILL ESTATE.

TO BUILDERS AND CAPITALISTS.—SITE for a first-class HOTEL, and for VILLA RESIDENCES, close to the CRYSTAL PALACE, within fifteen minutes of the joint station of railways both to the City and the West end.

TO BE LET on LEASE, for 84 years.—Money will be advanced to builders, if required, on good security.

For terms and further particulars, apply to Messrs. BANKS and BARRY, Architects and Surveyors, 27, Sackville-street, Piccadilly.

TO BUILDERS, ENGINEERS, WHARFINGERS, MANUFACTURERS, RAILWAY CARRIERS, &c.

TO BE SOLD, Freehold and Leasehold, BRUNSWICK WHARF, Draw Dock, Residence, &c. Vauxhall. Frontage to the Thames 137 feet; depth, next the South-Western Goods Station (communicating with every principal port and town in the kingdom), 377 feet.—Apply on the premises; and to Mr. T. M. NELSON, Architect, 3, Charles-street, St. James's, London.

WANTED, PREMISES in a respectable thoroughfare, in the vicinity of the Bank of England or King William-street, suitable for a public company.—Full particulars and lowest terms to be addressed to A. B. Messrs. Nissen and Parker's, Stationers, 66, Tower-street.

TO CAPITALISTS, BUILDERS, AND OTHERS.

WESTON-SUPER-MARE, SOMERSET.—The only FRONTAGE LAND to the SEA remaining unbuilt upon in the town.—TO BE SOLD, the Fee Simple and inheritance of and in ALL those several LOTS of FREEHOLD LAND (in one or more lots), as now marked out for building in an intended NEW SQUARE of about twenty large houses, FRONTING AND OPEN ON THE WEST SIDE TO THE ESPLANADE AND THE SEA, OVER WHICH THERE IS AN UNINTERRUPTED VIEW. The square is intended to be 200 feet from north to south, and 200 feet from east to west, and to communicate on the east side with a handsome NEW STREET, about 40 feet wide, and between 400 and 500 feet long. This valuable property is bounded on the south by Regent-street, and on the north by the Hotel-field, and contains altogether nearly four acres of the finest building land. The finest building stone at 1s. 8d. per ton; best lime 25s. per 100 bushels; best building bricks 21s. per 1,000, all delivered. The finest building sand on the spot, gratis. Timber, Bath stone, &c. by sea and rails into the place, free from all town and other dues. These lots may be purchased or held on ground-rents at the option of the purchasers.—Plans and further particulars may be had of the proprietor, B. GUY PHILLIPS, Esq. Weston-super-Mare.

TO BUILDERS, SOLICITORS, &c.

THE Owner of some eligible Freehold House Property, of about 800l. value, wishes to PURCHASE ONE or TWO eligible LEASEHOLDS of about 600l. value, by a mortgage on both estates to two-thirds of their value.—Full particulars alone attended to.—Direct A. B. Post-office, Enfield.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANKS, DEALS, and BATTENS, &c. sawn on the most approved principle; Boards, &c. prepared, matched, and grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks, and carted home free of charge. Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

By Her Majesty's Royal Letters Patent.

TO BUILDERS AND OTHERS.

SEASONED WOODS by the Patent Desiccating Process for SALE, at E. I. FULLER'S Depôt, 27, Wharf-road, City-road. Spanish and Honduras Mahogany, Wainscot, Hornbeam, Limetree, Birch, Beech, and Veneers. Flooring and Match Boards, &c.

A LARGE ASSORTMENT of WELL-SEASONED, DRY, PREPARED WHITE and YELLOW BATTEN FLOORING, also a large quantity of SCAFFOLD POLES, FOR SALE, at a low price, at DRUCE'S, No. 2 Wharf, Queen's-road West, Chelsea. Bricks, Lime, Cement, Sand, Plaster, Slates, and Slate Slab, Tiles, &c. on Sale at the lowest remunerative prices. Goods landed and carted. Ladders for sale. Apply to H. P. DIXON and CO. as above. Great facilities for the prompt execution of country orders.

REDUCED PRICES.—EDWARD SIMMS (late William Cleave), of Wilton-road, Pimlico Basin, beg to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK and DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Mouldings prepared by Machinery, Laths, &c.—Apply at E. SIMMS'S (late W. Cleave's) Flooring Manufactory, Wilton-road, Pimlico Basin.

FOREIGN TIMBER and DEALS of every description, at the lowest prices, for cash; and also Prepared Floors at the following prices, for the present month:—

¾ in.	⅞ in.	1 in.	1¼ in.	
17s. 6d.	18s. 6d.	21s.	26s.	Yellow, per square.
16s. 6d.	17s. 6d.	19s. 6d.	24s.	White, do.

Battens, 2s. 5d.; Deals, 4s. 6d.; and Plank, from 8s. 3d. per 12 feet. Dantzic Timber, 85s. per load, and every kind of English and Foreign Wood direct from the docks.—Apply to Mr. MAY, 90, Leadenhall-street.

MOULDINGS by MACHINERY.—ARCHBUTT and ATKINSON will forward their new and enlarged List of Diagrams on receipt of four penny stamps (the price of the postage), St. Pancras Saw Mills, Old St. Pancras-road.

PREPARED FLOORING, &c.—ALFRED ROSLING begs to inform parties shipping wood goods to the colonies that he can supply any quality or description at the lowest prices of the day, and with the greatest possible despatch. Also mouldings in great variety. A large stock of Baltic deals kept in bond for export.—Southwark-bridge Wharf, Bankside.

SEASONED FLOORING.—A large stock of dry YELLOW and WHITE FLOORING, prepared by improved machinery, always on sale, at the lowest possible prices at ARCHBUTT and ATKINSON'S, St. Pancras Saw Mills, Old St. Pancras-road.

THE GENERAL WOOD-CUTTING COMPANY beg leave to inform their customers and the public that in consequence of the progressive and sustained advance in all descriptions of wood goods and labour, they are compelled to increase their prices for mouldings in the same ratio, and that on and after the 10th October twenty per cent. on the rates of their printed list will be added to the invoice of each parcel of goods delivered.—Discount for cash as formerly.

METROPOLITAN PATENT WOOD PAVING.—W. BASTABLE and CO. having purchased a large quantity of Foreign Timber (under a bankrupt sale), are enabled to supply Wood Paving, cut to any shape or size, on very moderate terms.—Office, Belgrave Works, Thames-bank, Pimlico.

STAINING DEAL TO IMITATE ALL KINDS of WOODS. It requires NO SIZING, and will stand the exposure to the weather. Price 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 44, and 56, James-street, Oxford-street.

STEPHENS'S LIQUID OAK, MAHOGANY, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds. In the building and decorating churches, where it is desirable to give to the cheaper kind of woods the appearance of antique oak, or to make deal assume the character of oak panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.—Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; and at the Office of "The Builder," at both which places may be had the proper Varnish and Size, with directions for use.

TO BE DISPOSED OF, in an old and improving Port and Market Town, a WHARF and STOCK IN TRADE of a TIMBER MERCHANT. The premises are Freehold, and may be had on Lease or purchased. There is a Cottage Residence, with Garden, substantial brick-built three-floor Granary, Stabling, and other Buildings. River frontage 230 feet.—Apply to Messrs. VALPY and STOKES, Estate Agents, Chelmsford.

CHESTER and HOLYHEAD RAIL-WAY.—COMMUNICATION between ENGLAND, SCOTLAND, and IRELAND, viâ HOLYHEAD.—Notice is hereby given, that on and after the 1st of DECEMBER, 1853, the Through Booking Arrangements for Passengers will be confined exclusively to the EXPRESS VESSELS of the CHESTER and HOLYHEAD COMPANY, which leave Kingstown at 9 a.m. and Holyhead at 5.30 p.m. By order, J. O. BINGER.

General Manager's Office, Chester, 24th Oct. 1853.

TO BUILDERS AND UPHOLSTERERS.

A WELL-ESTABLISHED BUILDING and UPHOLSTERY BUSINESS TO BE DISPOSED OF in the country, in the fast-improving town of Leighton Buzzard, Beds (distance, 40 miles from London), in consequence of the present proprietor taking a business in town. The shop and premises stand in the High-street, and in the centre of the market. Also, TO BE LET, with or separate, a first-rate BRICKYARD, in good working order, having an excellent article and good sale.—Application to be made personally, or by letter post paid, to Mr. ROBERT MERRY, the Proprietor, where particulars may be obtained and parties treated with.

TO BUILDERS.

TO BE DISPOSED OF, a highly respectable BUSINESS, of long standing, within thirty miles of London, in a rapidly increasing neighbourhood, with railway communication. None but persons of known respectability need apply.—Address, with real name and address, to J. P. Office of "The Builder."

THE PERMANENT WAY COMPANY call the attention of Railway Directors and Engineers to their Patent Rails, Sleepers, Fish Joints, and other important improvements now in use on upwards of 2,000 miles of railway. Every information may be obtained on application to Mr. CHARLES MAY, C.E. the Manager; or to Mr. WILLIAM HOWDEN, the Secretary, 26, Great George-street, Westminster.

LADDERS, BARROWS, &c. for SALE or HIRE.—G. ELL invites the attention of builders, decorators, and the trade generally, to the Large Stock of Ladders; excavators', brickmakers', and other Barrows; Painters' Machines, Trestles, Steps, &c. he has always on hand, at a very low scale of charges.

Manufactory, 3, TOTTENHAM-COURT, NEW-ROAD, opposite Hampstead-road.

WATKIN DOYLE (late Meeson, Brothers, and Doyle) begs to inform the trade, that he is carrying on the business of COAL MERCHANT and LIME BURNER, and trusts for a continuance of their favours. Grey Chalk and Flare Lime fresh at the kilns every day.—N.B. All kinds of Red Goods, Sand, Hair, &c.—Stratford, near London.

TO BUILDERS and OTHERS.—A Large STOCK of TARPAULINS, of every size, on SALE or HIRE, upon most moderate Terms. W. ESTWICK, Manufacturer to Her Majesty's Honourable Board of Ordnance, 99, High-street, Hoxton Old Town.

N.B. Marquees and Tents erected on the shortest notice, for laying Foundation Stones, and other purposes.

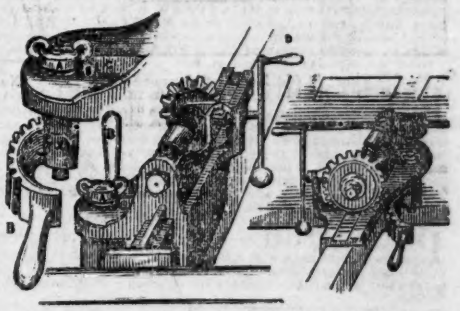
TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore-street, City. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS, IRONMONGERS, &c.

WANTED, a PAIR of WROUGHT-IRON GATES, opening from 10 to 12 feet, with top rail inverted. Apply to Mr. J. HAYES, Builder, Oxford-street, Gloucester.

PATENT CRAMP FOR FLOORS, DOORS, AND SASHES.

W. BISSELL, PATENTEE, WOLVERHAMPTON.



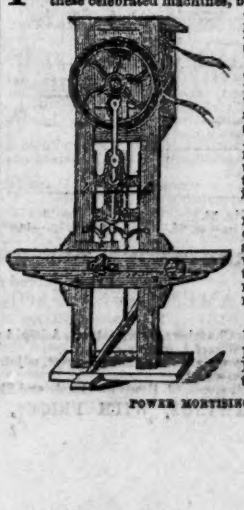
AA. A set screw and pin moving in slab C, to regulate for any thickness of joist, from 2 to 4 inches.

B. An eccentric notched lever, to be turned and pressed against the joist.

Lay the cramp upon the joist close up to the board, move the set screw in the slab up to the side of the joist, then fix the set screw FIRM. Turn the notched lever B against the joist, then, by turning the handle D, the lever will gradually fix itself and hold the cramp firm: the greater the strain, the more tightly, by its eccentric action, will the lever bind. The Patentee, in asking the attention of Builders and others, assures them that his cramp possesses great advantages. It is a BENCH cramp of the best kind, and as well suited for doors and sashes as for floors. From its superior mechanical principles, it has greater power, and will be found to be more quickly and safely used than any yet brought out, and at the same time it is light and portable.

VALUABLE PATENT MACHINES FOR WORKING IN WOOD.

PRIZE MEDALS have been awarded to these celebrated machines, both by the Great Exhibition in London, and many scientific institutions. They are extensively used throughout the United Kingdom, by joiners, contractors, coach and cabinet makers, railway carriage and waggon builders, machinists, agricultural implement makers, shipbuilders; and also by the British and French Governments, for planing and squaring up moulding, tenoning, mortising, grooving, rebating, sawing, and boring.



POWER MORTISING MACHINE.

Their operations are in every respect perfect, either in hard or soft wood, and will perform all the ordinary descriptions of work required in the above trades in a very rapid and superior manner, and at a greatly reduced cost.

Sold only by WILLIAM FURNESS, Patentee, 20, Lawton-street, Liverpool, from whom full particulars may be obtained.

THE FARNLEY IRON COMPANY, WORTLEY, NEAR LEEDS,

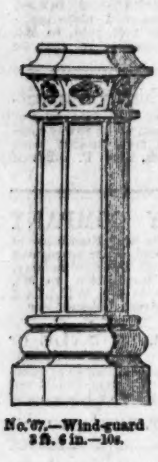
MANUFACTURERS OF

FIRE-BRICKS, PATENT GLAZED STONEWARE DRAIN PIPES, CLOSET PANS, ORNAMENTAL TRUSSES, BRACKETS, MODILLIONS, PEDESTALS, VASES, &c.;

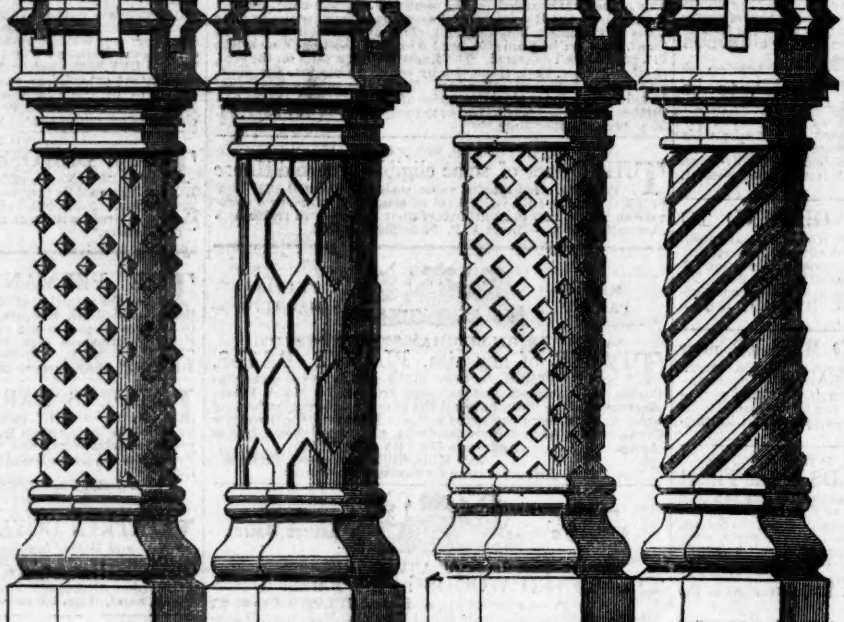
ALSO OF

TERRA COTTA CHIMNEY-TOPS,

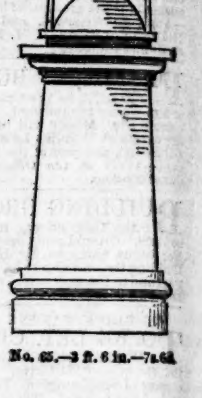
In upwards of One Hundred Patterns, of various dimensions and of first-rate design, a few of which are given below,—scale half an inch to a foot.



No. 67.—Wind-guard 3 ft. 6 in.—10s.



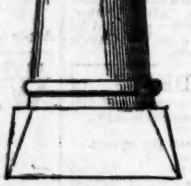
Nos. 46, 47, 48, and 49.—4 ft. 4 in. high—18s. 6d.
" " 6 ft. 0 in. " 25s. 0d.
" " 9 ft. 0 in. " 60s. 0d.



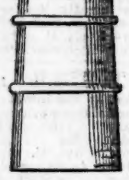
No. 65.—3 ft. 6 in.—7s.6d.

No. 38.—3 ft. 6 in.— 8s. 0d.
4 ft. 2 in.—10s. 6d.

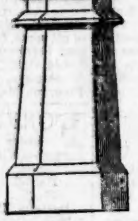
No. 18.—Oblong or Square.
2 ft. 3 in.—3s. 3d.
3 ft. 6 in.—3s. 6d.
3 ft. 9 in.—4s. 0d.



No. 24.—Wind-guard.
3 ft. 6 in.—5s.



No. 2.—2 ft. 0 in.—1s. 6d.
2 ft. 6 in.—2s. 0d.

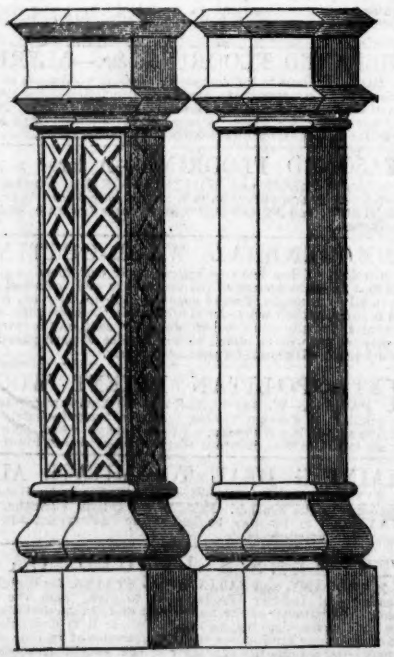


No. 14.—2 ft' 6 in.—3s. 6d.
2 ft 10 in.—3s. 0d.
3 ft· 8 in.—3s. 6d.

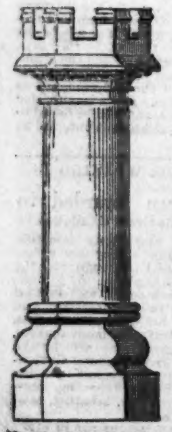
No. 13.—3 ft. 1 in. 4s. 6d.

No. 66.—Plain or Wind-guard
3 ft. 10 in.—10s. 6d.
4 ft. 2 in.—12s. 6d.
4 ft. 8 in.—15s. 0d.

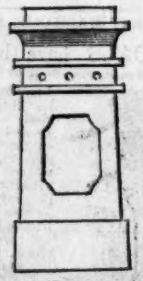
No. 76 (round).—1 ft. 10 in. high—2s. 6d.



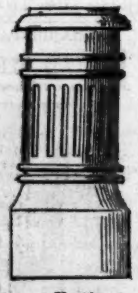
No. 75 (square).—1 ft. 10 in.—2s. 6d.



No. 30.—4 ft. 3 in.—15s.
6 ft. 0 in.—22s.



No. 34.
2 ft. 9 in.—4s. 6d.

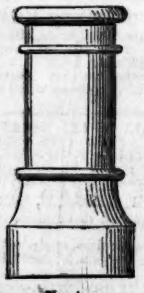


No. 12.
2 ft. 3 in.—4s.

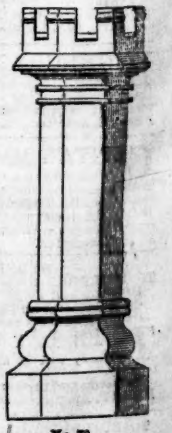
No. 73.
6 ft.—22s.

No. 74.
6 ft.—25s.

No. 21.
Oblong or Square.
2 ft. 6 in.—2s. 9d.
3 ft. 0 in.—3s. 6d.
3 ft. 6 in.—5s. 6d.



No. 4.
2 ft. 8 in.—2s. 6d.



No. 70.
4 ft. 3 in.—15s.

ARCHITECTS' DESIGNS CAREFULLY EXECUTED, AND WITH QUICK DESPATCH.

Prices quoted are delivered free in Leeds, on Boat or Rail, for any part of the Kingdom.

OFFICES AND STORES.

LONDON..... No. 14, York Chambers, George-street, Adelphi; No. 16, Bath-place, New-road; St. Ann's Wharf, Limehouse. [street.
BIRMINGHAM.. No. 7, Easy-row; also King Alfred-street, adjoining Bingley-hall, and Lawley-
BRISTOL ..... No. 14, Nelson-street.
LIVERPOOL .... No. 8, Russell-street, 83, Renshaw-street, and Shipping Wharf, Leeds-street.
MANCHESTER .. No. 46, Travis-street, and 23, 24, and 25, Birmingham-street, London-road.
HULL ..... No. 60, Queen-street, and Wellington-street.
BRADFORD..... Horton-road.
LEEDS ..... Wellington-street, adjoining the Midland Station, and Shipping Wharf, Victoria Works, Hunslet.

WHERE DRAWINGS, WITH PRICES, &c. MAY BE OBTAINED; AND AT THE GREAT INDUSTRIAL EXHIBITION, DUBLIN.